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## LECTURES.

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### ANEURISM OF THE THORACIC AORTA.

BEING A CLINICAL LECTURE.

BY WM. PEPPER, M. D.,

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CASE I. The patient is a sailor, of middle age, and born in Germany. His health was unimpaired until about ten months ago, when he felt slight pains in the upper part of the right side of the chest, and complained of some shortness of breath upon exertion. He has a venereal history, and of late years has been frequently exposed to rough weather. Within the past ten months his symptoms have been gradually increasing, and he has been obliged for the last five months to give up all work and confine himself to bed. He has never had any cough, and there have been no sputa since he has been sick.

An examination of the heart shows that its action is much excited, that the area of impulse is enlarged, and that the maximum impulse is felt in the sixth interspace, one inch to the left of the left nipple. The area of cardiac dullness upon percussion is increased. The heart extends up to the third rib, down to the level of the stomach, and from the left border of the sternum to one inch beyond the left nipple. This proves that the *size* of the heart has increased. The first sound of the heart is roughened. There is no valvular murmur heard at the apex, but I find a slight murmur at the base. This murmur is heard high up and at the anterior border of the axilla, and is also feebly transmitted to the inferior angle of the left scapula behind. There may be some slight mitral regurgitation, therefore, in addition to the functional disturbance of the heart. The murmurs are strongest in the second interspace, two inches to the right of the sternum. They, however, are very much weaker at the aortic cartilage, and do not follow at all the laws of the transmission of mitral or aortic murmurs.

The lungs are entirely healthy. The right upper chest is slightly fuller than the left. Upon examination of the right upper chest, where the pain is located, I discover a strong pulsation and thrill. These signs are situated at the exact point mentioned above as that where the mur-



murs are loudest. This spot is two inches to the right of the sternum and four inches upwards and to the right of the heart's impulse. On percussing the chest I get resonance over the upper part of the left chest, but on the right side there is flatness, extending from the lower margin of the third rib up to the clavicle, inwards beyond the middle of the sternum, and outwards to the junction of the middle and outer third of the clavicle. There is evidently a pulsating tumor exactly over the site of the arch of the aorta.

This tumor certainly is not the heart. It must be either some body with pulsation of its own, or some solid body which the heart hits at each stroke and to which it transmits its impulse. Can this be a tumor which receives and transmits the impulse of the heart? We rarely find a tumor in this part of the chest, for the simple reason that there are no glands here which could become the site of a tumor. On auscultation over the site of pulsation and thrill I hear a hoarse, strong, blowing murmur. This murmur cannot be heard over the heart. Putting those facts together we are able to diagnosticate the existence of an aneurism. No such enlargement is possible in the course of a vein. From the position of the aneurism it must be one involving the outer wall of the arch of the aorta and possibly the mouth of the innominate artery. This aneurism is as large as the head of a child at term. It is the result, probably, of atheroma of the coats of the innominate artery and aorta, brought on by syphilitic arteritis.

The patient is unusually free from the complications which commonly attend an aneurism of the aorta and innominate. Such an aneurism may press upon the trachea, causing cough, dyspnoea, and in some cases aphonia; or upon the pneumogastric nerve, producing paralysis of its branches, with hiccough, belching, etc. Again, by pressure on the œsophagus, the reception of food might be seriously impeded, if not entirely prevented. This man presents none of these symptoms. In some cases of aneurism of the aorta, there is a difference in the two radial pulses, owing to interference with the passage of the blood on one side or the other of the aorta. In this case the two pulses are pretty nearly alike; the right is perhaps a shade smaller than the left. Sometimes there will be pressure on the neighboring sympathetic ganglia, which regulate the vasa vasorum. At times there is an inequality in the circulation on the two sides of the head, as shown in the size of the pupils, one being larger than the other. There is no difference in the size of this man's pupils. The aneurism in this case, fortunately, does not interfere with any important structures. It is gradually, however, leading to absorption of the ribs above its site.

As there is great danger of the sac bursting, treatment must be directed (1) to the stoppage of the progress of the atheroma, and (2) to the diminution of blood pressure. The only drug which can

favorably affect the atheroma is iodide of potassium. This should be given in doses beginning with fifteen grains three times a day. The patient must be rigorously confined to bed. To reduce the blood pressure, from three to five drops of the tincture of the root of aconite should be given thrice daily. Under this treatment in the present instance the pulse has been reduced from 96 to 70 in the minute, the pain and palpitation are all gone, the impulse is less strong, and the aneurismal murmur is much softer and weaker. All these signs point to a gradual solidification of the contents of the sac.

To diminish the mass of the blood, thus reducing the amount of red corpuscles and of albumen, and to increase the amount of fibrin, and so favor the coagulation of the blood in the sac, the patient should be placed upon a reduced diet, — about one half as much as would amount to full rations. I am allowing this man at breakfast two ounces of bread and a little coffee, at dinner two ounces of meat and a little bread, and at supper two ounces of bread. This diet has reduced his weight from one hundred and sixty-nine to one hundred and forty-five pounds, and has greatly increased his comfort, rendering sleep easier. I hope thus to bring about coagulation without surgical interference.

[Three weeks ago the man spat blood, and I was afraid the sac had burst. The patient was kept perfectly quiet; gallic acid was administered internally, and ice applied to the chest. Under this treatment the hæmoptysis stopped immediately. It was probably only the result of a local congestion.]

CASE II. Also a sailor. The patient came to port about one month ago. For the past three weeks he had been suffering from cough, general weakness, dyspnoea, and excited action of the heart. There had not been, during his sickness, any expectoration. His temperature had ranged as high as  $101\frac{1}{2}^{\circ}$  F., and he had complained of considerable pain in the left side of his chest. He could not breathe easily if he lay down, and so he sat up all through his illness. Percussion of the right chest revealed healthy resonance. There were no râles, and the respiratory murmur was good. Percussion over the upper lobe of the left lung elicited perfectly solid dullness extending all the way down to the fourth rib. The resonance was good, however, in the left axilla. The apex beat of the heart was outside the line of the left nipple. The heart was very much enlarged, and its sounds were feeble. No heart murmur at all could be heard upon auscultation of the back of the chest. Auscultation over the apex of the left lung in front showed entire absence of respiratory sounds, as if it were completely solidified or the sounds were muffled by an intervening pleural effusion. Behind there was a blowing murmur heard above and some slight bronchial breathing below. The train of symptoms and physical signs, together with the entire absence of any satisfactory history of the case, rendered



diagnosis exceedingly difficult. I was inclined to say upon first inspection that there was a sacculated effusion, the result of a previous attack of pleurisy. The dullness, however, was too extensive, and the history which we could obtain was not at all that of pleurisy. The physical signs on the back of the chest, too, were not those of an effusion, unless, indeed, there had been some plastic exudation there.

On the second day after the admission of the patient I thought I noticed a slight impulse at a spot in the left chest. The idea passed through my head that there might be some tuberculous consolidation giving rise to obstruction of a bronchus, thus causing an obstacle to the entrance of the air. On the evening of the second day I found that there had been slight hæmoptysis, and it occurred to me that there might be a tumor pressing on the lung, and so preventing the entrance of air. I noticed a swollen vein crossing the chest and pectoral muscle and joining the mammary vein. This proved to me that there was serious congestion somewhere. On the morning of the third day the man's pulse was very slight, this vein was still more swollen, and there was more hæmoptysis. I then, for the first time, suspected that there was an aneurism of the descending thoracic aorta, which was pressing on the overlying lung, and of which physical signs were muffled by this indurated and intervening lung tissue; that this aneurism was about to ulcerate into the left bronchus, and so gave rise to the slight spitting of blood; and that there had been a very rapid consolidation of the whole lower lobe of the lung on the left side going on, which had produced the coarse, crepitant râles. This diagnosis was made on the third day. On the evening of that day the aneurism burst, and the man died.

To-day I bring before you the results of the post-mortem examination, which prove that my final diagnosis was the true one and reveal to us the post-mortem lesions of a most obscure and remarkable case. At the apex of the right lung was found a collection of cheesy nodules, the results of syphilitic deposit, or catarrhal inflammation. The left lung was enlarged and very solid. There were a number of lumpy, solid clots of blood scattered through the lobes; the rest of the lung tissue was entirely collapsed. The lower lobe was almost black, the result of a combined pneumonia and hæmorrhagic infarction. There was also in this lung some pneumonic inflammation with infiltration. Upon opening the mediastinum, extensive pericardial effusion was brought to light. As there had not been any friction sound heard, this was never suspected during life.

All arteries adjacent to the arch of the aorta were found to be healthy. A large clot was discovered lying in an enlarged part of the arch. As the thoracic aorta was opened downwards extensive clots were passed, and its lower portion was found distended into a large aneurismal sac.

Upon opening the trachea the right bronchus presented an entirely healthy appearance. The walls of the left bronchus, however, were almost entirely sloughed away. The aneurism itself was completely covered by lung tissue.

This case presented a most extraordinary condition. The diagnosis had to be reached by a careful process of exclusion. The aneurism had grown in such an obscure manner as to give rise to no external physical signs. As regarded the rational symptoms, all that could be discovered was that the man had not been entirely well for some six months, and that towards the last he had experienced considerable difficulty in swallowing and suffered from distressing dyspnœa. The aneurism had been too deep seated to affect the pulse or pupils.

In conclusion, let me sum up for you the results and their probable causes. The left lung was entirely collapsed, and the entrance of air into it was finally prevented. This condition had given rise to complete flatness upon percussion and entire absence of respiratory sounds. The gasping respiration had filled the lower lobe with the blood which had found its way into the left bronchus through the ulcerated wall, and this blood had clotted, forming the numerous hæmorrhagic infarctions found at the post-mortem examination. The pressure of these clots had produced numerous spots of local gangrene.

The aneurism itself was located one inch below the origin of the right subclavian artery, and was undoubtedly the result of syphilitic arteritis. The cheesy nodules in the upper lobe of the right lung were due to syphilitic deposits; there was no tubercular disease. I have spoken above of the distinct evidences of pericarditis elicited by the autopsy.

This case is such a remarkable one that I shall present a complete history of its ante-mortem symptoms and post-mortem appearances at the next meeting of the Pathological Society.

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## OSTEOMALACIA IN A MAN.<sup>1</sup>

BY CALVIN ELLIS, M. D.,

*Professor of Clinical Medicine in Harvard University.*

THE patient was a carpenter, fifty years of age, belonging to a healthy family. Though he had a bad cough all winter, he thought nothing of it, and reported that he had not been ill, more than a day or two, for twenty years, until December 10, 1871, when, while in California, after exposure to cold, he had what was called pneumonia, which confined him to his bed for four weeks. The patient's account of the disease, however, did not necessarily indicate pneumonia. Though

Read before the Boston Society of Medical Observation, December 3, 1877.



there was an initial chill and fever, and dyspnœa was marked, there was neither cough nor expectoration. The other symptoms were loss of appetite, great weakness and fainting. The fever and faintness both disappeared, but the latter was very troublesome while it lasted. There was not much loss of flesh. At the end of a month he left his bed, and, after sitting up two weeks longer in his chamber, went out, but walked with great difficulty and gained nothing, forcing himself to go merely to get the air. The appetite returned, but he did not get well enough to do anything, and continued very weak and unable to walk even a short distance without much fatigue. On May 16, 1872, he started for Boston, by steamer. At first he was able to go to his meals, but, on the fourth morning, while stooping forward to wash his face, something in his back was heard to snap, his room-mate describing the sound as that of a piece of leather when made tense suddenly. This was accompanied by severe pain, and he fell at once. After that he was confined to his bed, as he could not stand if there was the least flexion of the spinal column, though he could if perfectly erect. He was carried across the isthmus on a litter placed in a baggage-car, but suffered much from pain in the back and all over. He also had a very hard time on the steamer this side of the isthmus. He had but one dejection for ten or eleven days, and his efforts caused great pain, and were followed by the passage of blood, or, to use his phrase, a "bloody flux." He finally reached New York on June 17th. He remained in New York five weeks, and was then brought to Boston. The bodily health improved immediately. He was able to sit up, however, but a short time, and spoke of "weakness in the bowels," and any exertion caused him to droop at once. He could not move a step without the aid of another person, and then on crutches, and had been able to do this a few days only when he was first seen on August 4th. There was much pain across the middle third of the abdomen, and, while lying in bed, some in the chest, which he considered muscular. When sitting he supported himself on his elbows. His feet were swollen one day "like a pin-cushion," he said, but there was nothing of the kind at the time of the visit, nor afterwards. The back curved outwards while in the sitting posture. Appetite and digestion both good. Tongue clean and pale. Bowels very costive, the dejections being composed of scybala as hard as bullets. Dyspnœa was quite marked. His chief complaints were faintness, dyspnœa, weakness of the bowels, and constipation. He spoke of a "cold-water spittle" rising in the throat and nearly strangling him. The urine was normal in appearance. Pulse 76. The temperature in the axilla below the normal point. There was no obvious paralysis, but he thought there was some diminution of sensation in the anterior part of the thighs. When well, he weighed two hundred pounds, but was much emaciated when seen. No



morbid physical signs over the heart or lungs. To the hand there was decided pulsation in the epigastrium, which he spoke of as trembling. On examination of this region with the stethoscope, there was heard a souffle, probably with the first sound, though at times it seemed to accompany the second. He showed a tendency to lie with the knees drawn up. The weather was excessively hot, and he had some "faint spells." He slept pretty well and did not sweat at night. He was ordered a pill composed of sulphate of iron two grains, aloes one half grain, extract of *nux vomica* one fourth grain, after each meal.

He was not seen again until September 5th. It was then reported that he continued to gain until he was able to be carried across the street, to his brother's, without injury. He had been troubled only by constipation and by faintness one very hot day. There was still a great secretion of saliva, with some blood, but no cough. It was stated at this visit that he had for a long time had difficulty in raising the right leg to get a stocking on, and he was trying to do this about the last of August, when he suddenly experienced, just above the right ilium, a feeling like that previously reported above the left, as if something gave way, accompanied by considerable pain, but without noise. The pain was still felt. Previous to this he had been able to sit up four or five hours, and could walk to a chair in the room with the aid of crutches or an attendant, but still had the same trouble in holding himself upright. There was no dyspnoea unless the weather was hot. The bowels had been opened every day, but the fæces were very hard and passed with much difficulty. No pulsation was felt in the epigastrium, and nothing unusual was heard by the unaided ear. Appetite excellent. Pulse 89. The aloes were increased to one grain, and an enema was ordered every day if there was no dejection.

When next seen, on September 15th, he spoke of noticing pulsation in the abdomen all the time, more internally than externally, but not perceptible to the touch. He was still troubled by the bloody secretion from the throat, which he was obliged to expectorate frequently in the night. This was noticed only after going to bed, as if it were in some way connected with position. He had not regained the power of standing, even with the help of his hands, and there seemed to be a weakness in the hips. He could, however, support his weight on his hands, while sitting on the bed, and was able to be carried down-stairs on the two previous days. Sneezing caused pain in the back. The appetite continued good. The urine was free. Pulse 92, strong and full. He looked about the same, but thought that he had gained some flesh. Though the dejections were still scybalous they were not the cause of suffering as before. He complained principally of pain in the epigastrium, and want of power over the legs. As a portion of the record was unfortunately lost, it is not known precisely when a change for the

worse took place, but on September 27th the following report was made: He suffered much from the passage of hard scybala, though an injection was given. The pain had become much more severe, and was so much increased by any attempt to move him that he would cry out and say that he could not bear it. Still he refused opiates. He had had high fever from early morning till noon, and did not seem to know any one, but in the afternoon he was better, and recognized his friends. His mind was clear, and he answered questions on being spoken to, though he lay in a dull, heavy state. Respiration good in the front of the chest, which was not examined behind. Pulse 100, very full.

On September 28th, he was reported to have passed a comfortable night without an opiate, which he refused. He was able to help himself somewhat, and to turn upon his right side, complaining only of being tired of lying in one place. He continued to sink, however, and died on the 29th.

One physician told him he had Bright's disease, and as far as can be remembered there were some suspicious appearances in the urine, but if a record were made it was lost.

*Autopsy* forty hours after death.

Head not examined.

About four ounces of purulent serum in the *right pleural cavity*. The greater part of the latter, however, was obliterated by old adhesions. The pleural surfaces between the left upper and lower lobes were dull, as from recent inflammation, and at the bottom of the fissure was some concrete pus. The posterior parts of the *lower lobes of both lungs* were considerably solidified as from œdema, hypostatic congestion, and perhaps some inflammation. Upper lobes œdematous.

*Heart* large as from general hypertrophy, but no valvular disease. The right side was filled with coagulated blood.

*Spleen* rather soft.

*Liver* apparently normal.

*Kidneys* rather large and succulent. Veins upon the external surface distinct and in groups. Cortical substance and pyramids less distinctly defined than usual, but there was no granulation nor anything especially morbid.

The *ribs* and *sternum* were soft and filled with red pulp. The *vertebræ*, particularly the lumbar, were sawed and broken down with ease, the bodies and processes being alike involved. They were filled with the same red pulp as the ribs and sternum, which is so characteristic of osteomalacia. In the midst of the diseased parts were some islands of firm bone.

The other bones were not examined.

The difficulty of diagnosis was great. The symptoms pointed very



clearly to the spine, which curved somewhat backwards. The pain, the sudden snap, and the subsequent loss of supporting power showed some positive lesion of the bone itself, such as cancer, caries, osteomalacia, or absorption caused by the pressure of a tumor. While there was an absence of any other evidence of cancer or caries, the pulsation in the abdomen and the souffle made it appear not improbable that an aneurism might explain the most prominent symptoms.

The connection between the increase of the medulla of bones and leucocythæmia had not then attracted attention, but there was nothing which suggested leucocythæmia before death, and nothing was found at the autopsy which has been considered characteristic of that disease, unless the condition of the bones themselves were such, which would be in accordance with the view of Neumann,<sup>1</sup> who asserted that the affection of the spleen and lymphatic glands was only accidental in leucocythæmia. But this view is opposed by Mosler<sup>2</sup> and Ponfick,<sup>3</sup> though the former reports a case<sup>4</sup> which seems to sustain the view that we may have a primary medullary form of leucocythæmia, just as we have the primary splenic or lymphatic forms. But, as the mixed cases are more common than those which are purely splenic or lymphatic, farther observations are necessary to show the relations of the three varieties to each other. One case can be of little if any value in deciding such a question. Occurring at a time when attention had not been called to the important points mentioned, it was not studied with reference to them, but nothing was noticed during life that suggested an examination of the blood, and no record is found of any microscopic examination of the medulla, though such was probably made. As, however, the patient died with disease of the bones alone, and as the changes found were such as are associated with the term osteomalacia, the case must stand as such unless future researches show that it would be classified more properly under the head of leucocythæmia.

As osteomalacia is rare in men, the case seems worthy of publication. Senator in Ziemssen's *Handbuch* quotes statistics from several writers who give a relative frequency, varying from one in twenty to one in three, the average of all being about one to eight.

<sup>1</sup> Wagner's Archiv, 1876, p. 11.

<sup>2</sup> Pathologie und Therapie der Leukämie, p. 81.

<sup>3</sup> Virchow's Archiv, Bd. 67, Heft 3.

<sup>4</sup> Berliner klinische Wochenschrift, 1876.

## RECENT PROGRESS IN OBSTETRICS.

BY W. L. RICHARDSON, M. D.

*The Mechanism of Natural and of Artificial Labor in Narrow Pelves.*

— In a paper read before the International Medical Congress at Philadelphia, Dr. Wm. Goodell discusses at length this subject, and gives, as the result of his study of these cases, some valuable suggestions as regards their proper treatment.

His paper deals mainly with the most common kinds of narrow pelves, which he divides into three classes: —

(1.) The simple, flat pelvis, or conjugate narrowing with correlative transverse widening.

(2.) The generally and uniformly narrowed pelvis, in which all the pelvic diameters are symmetrically shortened.

(3.) The generally narrowed, flat pelvis, which combines the bone lesions of the other two, but in varying proportions.

The first class is the one most commonly met with, and in these pelves the obstruction is a marginal one and confined to the sacral pole of the conjugate diameter. In the second variety the obstruction is diffused over every plane of the pelvic canal. In the third group the difficulty is either at the brim and marginal, or mainly in the pelvic canal and diffused. As to the question of how to tell a uniformly narrowed pelvis from one narrowed mainly in its short diameter, Dr. Goodell lays great stress upon the position of the head. When conjugate narrowing alone exists, or when it preponderates, the occipito-frontal diameter lies parallel to the transverse diameter of the brim, with the anterior fontanelle low down. A head thus situated implies conjugate narrowing and transverse amplitude of the brim. When the pelvis is uniformly narrowed, or when a transverse narrowing preponderates, the head will be found high up and very strongly flexed.

After a careful study of the mechanism of natural and artificial labor in a flat pelvis, Dr. Goodell gives the following practical deductions: "Nature makes the first-coming and the after-coming head enter the brim by extension; the forceps by extension. With the former the head engages in the short conjugate by its shortest and most compressible diameter; with the latter by its largest and most unyielding diameter. By nature and by version the head revolves around the promontory as a centre of motion; by the forceps it is dragged past, over this osseous point. By the former the head is molded to the outline configuration of the brim; by the latter, when applied to the biparietal diameter, it is molded more to the shape of the blades than to that of the brain. By the one the brain lesion is local and limited to the area bent in by the promontory; by the other the area of undue compression is in-



creased. By nature and version the compression is that which is needed, and no more ; by the forceps it is more than is needed.

“ Regarding, then, alone the mechanism of labor in narrow pelves, the following conclusions are reached : —

“(1.) The unaided first-coming head and the aided after-coming head observe in a flat pelvis precisely the same general laws of engagement and of descent. Hence, version here means art *plus* nature.

“(2.) The forceps, however applied in a flat pelvis, antagonizes more or less with the natural mechanism of labor. Hence, the forceps here means art *versus* nature.

“(3.) The aided and the unaided first-coming head observe, in a uniformly narrowed pelvis, precisely the same laws of engagement and of descent. But version violates these laws. Hence the forceps here means art *plus* nature ; version, art *versus* nature.

“(4.) At or above the brim of a flat pelvis the fronto-mastoid or even the fronto-occipital application of the forceps interferes less with the molding of the head and violates less the natural mechanism of labor than the biparietal application.

“(5.) In the flat pelvis, the vectis aids the natural mechanism of labor, and therefore meets the indications better than the forceps.”

*Rupture of the Uterus.* — Dr. Ludwig Bandl, the assistant of Professor C. Braun, in the Lying-In Hospital at Vienna, gives<sup>1</sup> the result of a careful study of twenty cases which he has seen in his practice. The rupture was always in the cervical portion, and in no case was the body of the uterus at all injured. This fact he explains as follows: Rupture of the cervix uteri happens very rarely in primiparæ, being most commonly met with in women who have already borne four or five children. It is most apt to occur in poor women who are in feeble health and anæmic, and especially is it liable to take place in those in whom there exists a slight pelvic deformity or in whom the position of the fœtus is transverse. The reason why it is rare in first confinements is because, in those cases, the cervix has not been stretched by successive labors, and has not, therefore, lost its original contractility. Dr. Bandl found, in examining women who had died soon after their confinement, that the cervical portion of the uterine wall was very much elongated, and this elongation was always observed to be more and more marked according as the patient had had few or many children. The cause of this state of the cervix was in most cases due to a slight deformity of the pelvis, while in some it had doubtless arisen from a faulty position of the child. The result of either of these two deviations from the rule is that the presenting part of the child becoming fixed in the slightly narrowed pelvis, the anterior or posterior lip of the cervix is

<sup>1</sup> Ueber Ruptur der Gebärmutter und ihre Mechanik. Von Dr. Ludwig Bandl. Wien. 1875.

held firmly down, while the uterus, continuing to contract, tends to produce a marked elongation of the uterine neck. Later, the elongation having continued for a long time, and the cervical wall becoming thinned, a rupture takes place. This rupture may be brought about when the cervix is in that condition by the simple introduction of the hand for the purpose of effecting version, or of the blade of the forceps.

In very thin women it is possible to detect through the abdominal walls this stretched condition of the cervix. In these cases, on inspecting the abdomen of a woman who has been for some time in labor, a constriction can be seen about a hand's-breadth above the symphysis pubis. Palpation still more readily detects this constriction, which clearly marks the dividing line between the cervix and the body of the uterus. A hand introduced within the uterus at this time feels the constriction high up, even surrounding and grasping some part of the child.

This statement of Dr. Bandl is questioned by many of the German obstetricians, and especially by Dr. Martin, of Berlin, who has himself written at some length about the relations existing between the cervix and body of the uterus during labor. The views of Dr. Bandl, however, seem to be supported by the fact that, in those cases in which the rupture is small, the blood and fluids which escape from the uterus are found not inside but outside the peritoneal cavity, and the peritonæum itself is found dissected up and separated from the pelvic walls.

In cases where the pelvic deformity is very great, no rupture takes place, for the presenting part cannot become engaged in the pelvis, and consequently the cervix is not caught and pressed firmly against the pelvic walls. In these cases, therefore, no elongation nor thinning of the cervical tissue takes place.

*Intra-Uterine Injection of Hot Water in Post-Partum Hæmorrhage.*  
— Dr. Runge gives the account<sup>1</sup> of the results obtained by Professor Gusserow, of Strasburg, by the use of hot-water injections in cases of post-partum hæmorrhage. The cases cited are seventeen in number. Ten of the patients were the subjects of simple post-partum hæmorrhage, and in seven the hæmorrhage followed an abortion or a labor after which portions of the placenta had been retained. The instrument used was usually an irrigator, although in some of the cases an ordinary syringe was employed. The temperature of the water varied from 118° to 125° F. In two out of the ten cases of simple hæmorrhage the effect of the injection was remarkable and prompt, although the usual remedies employed in such cases had been first tried without avail. In five of the cases this was the only treatment used, and with immediate relief. In two of the cases the result was doubtful, and in the last case no result followed, although the injection was continued

<sup>1</sup> Berliner klinische Wochenschrift, March 26, 1877.



for half an hour. As regards the hæmorrhage arising from retained portions of the placenta, there was no effect from the use of the hot water until the placental fragments had been removed. The injection of the water did not seem to hasten the uterine contractions.

The great advantage which seemed to favor the use of hot rather than cold water for injections in such cases is that, instead of abstracting warmth from the body, which is greatly needed in many of these cases, we are really adding to the amount of the animal heat of the patient. In all these cases it was noticed that the uterus did not become as hard and consequently not as small as after a normal birth. Carbolic acid may, of course, be added to the water if desired.

*Cephalotribe versus Cranioclast.* — Dr. Max Wiener gives<sup>1</sup> the results obtained in the Lying-In Hospital at Breslau with these instruments. The cephalotribe was used in seventy-eight cases. In eleven of these it failed, and it was found necessary to use other means to effect the extraction. The cranioclast was used in forty-six cases and failed in seven. Since 1872, however, as more skill was acquired in the use of the latter instrument, no failure to effect extraction has occurred. The results obtained were as follows: Of the forty-three women delivered with the cephalotribe twenty-one died, sixteen of puerperal fever and two from rupture of the uterus. Among these fatal cases the cervix uteri was found to have been ruptured in eight; in one the anterior lip of the os was torn off. Gangrene of the uterus was present in three cases, and of the vagina in one; in three there was suppuration of the cervix uteri, in one of the symphysis, and in one a perforation was found reaching into the peritoneal cavity. In eight of the cases the cephalotribe slipped off, and six times a repeated application of the instrument was necessary. A vesico-vaginal fistula resulted in two of the cases. Of fifty-two women delivered with the cranioclast nineteen died, fifteen of puerperal fever and two of rupture of the uterus.

Dr. Wiener objects to the cephalotribe because it must be applied laterally, and consequently, while it flattens the cranium in that diameter, it necessarily expands it in the antero-posterior diameter, which is the very thing to be avoided. As to the method, advised by some, of rotating the blades after their application, he considers the danger of inflicting a serious injury to the soft parts of the mother as too great to warrant such a procedure. The cranioclast, on the other hand, elongates the head, causing it to assume a conical wedge shape, the apex being downwards. In the most difficult cases he advises the induction of a face presentation and the subsequent introduction of the inner blade within the mouth, while the outer passes over the face and brow.

<sup>1</sup> Archiv für Gynækologie, xi. 3.

## PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

O. W. DOE, M. D., SECRETARY.

NOVEMBER 19, 1877. *Delirium Tremens*. — DR. MCCOLLOM read a paper upon this subject which will be published in full in a later number of the JOURNAL.

DR. INGALLS asked the reader if he had ever known any one to die in a first attack of delirium tremens.

DR. MCCOLLOM replied that he knew of only one case of a first attack proving fatal, and that was of a young girl who drank of alcohol to excess. Usually, the more attacks a patient has, the more broken down he becomes and the more liable he is to succumb to the disease.

As regards the use of opium in this affection, DR. FISHER said he had never adopted that treatment on account of his knowledge of its fatal results. At Deer Island, sixteen years ago, he was informed that patients were sometimes removed dead from the padded cells in use there at that time. During the year of his service there he treated his cases in airy rooms in the attic, by a more expectant method, with strict attention to feeding, and no fatal case occurred. As physician to the Directors of Public Institutions he now sees ten or twelve cases a month for purposes of diagnosis only. It is fortunate for these patients that so little treatment is required and that recovery is the rule, since the natural period of the disease has often nearly elapsed before they arrive at a destination where systematic treatment is possible.

DR. FISHER said that it is highly important to differentiate the varieties of mental disorder from drink in persons arrested, since while the law exonerates a person insane from drink for his acts, and sometimes when simply delirious, it holds him responsible when frenzied by the immediate effects of alcohol, though in this state he may commit acts of violence which he does not afterwards remember.

DR. BOLLES thought from the various methods of treatment which he saw at the City Hospital three years ago that recovery depended much more upon proper nursing and food than upon drugs. One surgeon treated the disease, when complicating surgical injuries, with chamomile tea, and with as good results as by any other method.

DR. WEBBER asked the reader what he thought to be the pathological condition of the brain in delirium tremens.

DR. MCCOLLOM replied that he considered the brain to be poisoned by the presence of alcohol, and in a state of congestion, probably venous.

DR. WEBBER said he thought the condition to be probably a complicated one; that we should take into consideration the want of proper food which the patients usually suffer from. He regarded the pathological condition as one of cerebral anæmia of pure arterial blood, attended with slow circulation, the vaso-motor nerves becoming paralyzed by alcoholic poisoning, thereby producing passive congestion and an insufficient supply of arterial blood; with this is probably also œdema.



The attacks are so variable in different persons that statistics regarding treatment are of comparatively little value unless we know the condition of the patient in full. Digitalis in a patient with a good, full pulse from 70 to 80 would not be indicated; but where the pulse is small, rapid, feeble, compressible, and there is a great deal of delirium and excitement following long abstinence, digitalis acts well, in accordance with the speaker's ideas of the pathological condition, by increasing the force of the cardiac impulse, and by contracting the smaller blood-vessels the rapidity of the blood current is also increased. It sends poor blood, to be sure, at first, but the blood flows faster and becomes much better aerated. Tincture of digitalis in a half-ounce dose has sometimes produced sleep within half an hour. Even two drachms has occasionally had the same effect, and almost always after two or three doses. The dose should be graduated according to the condition of the patient; a too long-continued use, a too frequent repetition of the drug, would be dangerous, and should be avoided. Patients who have had five or six attacks have recovered sooner under the use of digitalis than by any other treatment. At the City Hospital only one death has taken place, and in this case the patient had had several attacks previously. In the last and fatal one, as in the others, he had had convulsions of an epileptic character. There was albuminuria. Two doses of digitalis were each followed by sleep, but he subsequently became much excited, vomited food and medicine, and digitalis again given had no effect. After death the kidneys were found much diseased.

DR. FISHER objected to the term "cerebral anæmia" as used by Dr. Weber in reference to a state of passive cerebral congestion, though he had seen it so applied in books. He said that the nerve cells may be in a state of starvation, or suspended nutrition, while the brain as a whole is full of blood. He had found great benefit from digitalis in a case of idiopathic delirium where passive congestion evidently existed.

DR. CURTIS remarked that Gubler thought the state of the brain in delirium tremens to be one of hyperæmia and not anæmia, since during sleep the pupils are observed to be contracted. Langlet, a pupil of Gubler, has recently written a treatise upon this subject, in which experiments are noted which seem to show the condition of the brain to be that of hyperæmia. Dr. Curtis advised the use of less remedies, inasmuch as renal disease is so often a complication, and many drugs, especially mercury, opium, and salicylic acid, are known to act unfavorably in such cases.

DR. JEFFRIES referred to two or three instances of threatened delirium tremens in which a good cathartic seemed to act as a prophylactic.

*Case of Pleurisy.*—DR. BOWDITCH referred to the case of pleurisy in a young girl, reported at the last meeting, and said that it had been progressing very favorably, even as well as the one of nine months' duration. The last part of the fluid drawn seemed to be of a sero-purulent character. Dr. Bowditch said he considered the case at that time to be even more serious than if it had been pus alone, as the former requires other aspirations, and generally affords a more unfavorable prognosis than clear serum or pus. He said he was gratified to find upon a microscopic examination that only very few pus cells could be seen, but cholesterine in a large amount, which was probably the cause of the sero-purulent-like color.

*Case of Poisoning.* — DR. BUNDY reported the following case of poisoning: A gentleman took by mistake a large dose of a liniment, the amount taken representing three grains of morphia, two thirds of a grain of atropia, and forty drops of tincture of aconite root. Mustard given as an emetic produced no effect. Two drachms of sulphate of zinc, administered half an hour after the poison was taken, produced emesis in three quarters of an hour. The stomach-pump was subsequently used, and the patient recovered. The liniment was put up in a common white bottle, and Dr. Bundy suggested that apothecaries should be requested to use for all poisonous preparations blue glass bottles with a rough exterior.

*Hysteria in a Male.* — DR. BOLLES reported the following case. A young man was suddenly attacked with almost complete (hysterical) coma, and was found in that condition in bed one morning, occasionally sobbing, but not responding to any questions, nor to pricking, pinching, or touching the conjunctiva. Pulse varied from 100 to 120. Temperature  $100\frac{5}{10}^{\circ}$ . There was free perspiration. He passed urine of a light color in large quantities. He improved a little on the next day, but subsequently relapsed, and remained so for four days. The attack was brought on by some "amatory misunderstanding," and subsided immediately on reconciliation taking place, leaving a condition of exhaustion for several weeks.

*Arsenical Poisoning.* — DR. BOWDITCH reported a case of arsenical poisoning in a boy three years old, from sleeping in a room the walls of which were covered with arsenical paper. The symptoms were impaired digestion, nausea, diarrhœa, a roughened tongue, pallid countenance, and general depression of strength. The papers on examination showed the presence of arsenic. Dr. Bowditch thought it should be a penal offense for any one to sell arsenical paper, but on the contrary the law at present allows such to be sold, and he believed it to be sold by all paper dealers.

DR. INGALLS said that Dr. F. H. Brown offered a petition to the legislature last year to prohibit the sale of arsenical papers, and that he with others appeared before a committee in support thereof. They had secured the signatures of representatives of nearly all the district and many of the local societies in the State in furtherance of their petition. Many specimens of paper were shown and proofs presented of the amount of arsenic contained in a large proportion of those which are in common use. There were also proofs shown of the deleterious and dangerous effects of such papers when placed upon the walls of sleeping and other inhabited rooms.

Although the petitioners had attended two sessions of the committee and had given ample testimony regarding the necessity of preventive legislation, the committee had declined to recommend such action. The committee had admitted the desirability of protection to the community, but considered that such action as was suggested would bear too severely on the makers and vendors of wall and other papers.

*Cancer of the Spleen.* — DR. BOLLES showed a specimen of cancer of the spleen, taken from an elderly lady who had cancer of the breast removed three years ago and a second operation two years later. There was also cancer of the lungs and liver.



*Anal Speculum and Modified Urethrotome.* — DR. CURTIS showed an anal speculum made of block tin, in the form of a cross, and easily closing up like an umbrella. He also showed a modification of the urethrotome of Civiale, combining the exploring bulb and cutting blade, with a series of movable bulbs varying in size from eighteen to thirty-five of the French scale.

DECEMBER 3, 1877. *Cases treated by Bleeding.* — DR. HAYDEN read a paper upon this subject, reporting five cases.

DR. WEBBER said he had seen at the City Hospital two cases of œdema of the lungs complicating Bright's disease speedily relieved by the use of jaborandi; in one case, in which the patient was considered hopelessly sick and not expected to live but a short time, the lung became nearly clear after one drachm of the fluid extract of jaborandi had been given. This was repeated on the third and fourth days with still more decided benefit. The patient's life was prolonged several weeks, and he was relieved of great discomfort. Dr. Webber added that the subcutaneous injection of muriate of pilocarpine, one third of a grain, acted promptly, producing profuse diaphoresis, which commenced in five, ten, or fifteen minutes; in cases of extreme urgency this might be used with great advantage. In one of the two cases referred to above the patient swallowed the saliva, which caused vomiting and subsequent exhaustion, which was so great as to require stimulants; this was afterwards avoided by directing the patient to allow the saliva to run out of his mouth.

DR. C. E. STEDMAN said that he had bled in two out of five cases of puerperal convulsions seen last summer, in both of which were headache, a full, hard pulse, and albumen and casts in the urine. Recovery followed in each case. A patient suffering from pneumonia attended with orthopnoea and lividity, seemingly almost moribund, was bled to the extent of sixteen ounces, and expressed relief as soon as the blood began to flow. The next day he was out of danger.

DR. INGALLS said that in the early years of his father's professional career it was a custom for many persons of both sexes to "be bled" once and of some twice yearly. The seasons selected for the above-named purpose were early spring and early autumn. Men and not infrequently women would come into what was then called the surgery, and stripping up a sleeve sit down and offer the naked arm for "phlebotomy." This time was and this fashion prevailed about the beginning of this century. Practice for facility in the manipulation of the lancet was by frequent use of the instrument on the veins of a cabbage leaf. It was not a great while before his father began to reflect whether he was doing right to "let blood" for any one who might wish it unless in his own judgment there was reason for it. A hard, quick, and incompressible pulse was an indication for "letting blood;" but unless this was associated with some abnormal physical condition it did not, of itself, warrant the performance of the operation, for he observed that those who had been in the habit of losing blood at certain intervals were apt to have the character of pulse mentioned.

*Pathological Specimen from the Urethra.* — DR. CUTLER showed a specimen recently removed by Dr. Marion from the female urethra, consisting entirely of



fibrous and elastic tissue, there being no trace of mucous membrane and no blood-vessels to be seen. It was impossible, he said, to state its origin, but he thought it probably came either from one side of the bladder or from the abdominal wall. Dr. Cutler objected to the opinion expressed by some of the members present that it was introduced into the bladder by the patient herself, as the size of the body would contraindicate this, though the absence of any history of considerable constitutional disturbance was a strong point.

DR. MARION gave the following history of the case: The patient, a lady twenty-four years of age, a primipara, was delivered by forceps on September 9th after about fifty hours' labor. The catheter was passed on the 11th, and about three pints of urine withdrawn. From that time until October 16th, when he first saw her, there had been a constant dribbling of urine of a very offensive odor. On examination the mucous membrane of the vagina was red and swollen, and from the meatus was protruding a small portion of this mass, about the size of a grain of wheat. It was removed with considerable difficulty, it being rolled upon itself to fully an inch in thickness. No febrile symptoms preceded her confinement, and she had no puerperal disturbance, so far as could be ascertained from the notes of the physician in attendance or from the family. At the present time the incontinence remains to a considerable extent, she being unable to retain her urine more than an hour at a time, but it is no longer offensive, and she seems to be gaining the control of the bladder slowly.

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### SAYRE ON SPINAL DISEASE.<sup>1</sup>

IN this volume Dr. Sayre has given a complete account of his treatment of caries of the spine, and of spinal curvature, by the plaster-of-Paris bandage. The minutest details of the application of the "jacket" are carefully laid down, and the process is fully illustrated by numerous photographs and engravings.

We are correct in speaking of the treatment as *his*, for the idea of adopting this plan and applying it in *all* cases of spinal disease and curvature originated with or was first brought before the profession by Dr. Sayre. On page 14 due credit is given to Dr. Bryan of Lexington, Kentucky, for having applied a plaster-of-Paris splint to a case of Pott's disease in 1874. But as an account of this application, although witnessed by several physicians, was not published or otherwise made known to our author, previous to May, 1876, he derived no hint from that source.

Experiments to prevent motion of the spine, when affected with caries, and at the same time to allow of locomotion, but without any efficient endeavor to prevent pressure on the diseased vertebræ, have been made at various times. Eulenburg in 1867 or 1868 employed starch or dextrine bandages. Schildbach of Leipsic used, instead of starch, gutta-percha molded to the form. Klopsch used a solution of gutta-percha. Cuirasses made of copper have been employed for the same purpose. To form this cuirass a plaster-of-Paris mold of the trunk was first taken. From this a mold of wax, and on the wax, cop-

<sup>1</sup> *Spinal Disease and Spinal Curvature. Their Treatment by Suspension, and by the Use of the Plaster-of-Paris Bandage.* By LEWIS A. SAYRE, M. D., of New York. London. 1877.

per was electrotyped. This cuirass was usually perforated to allow of transpiration.

Thus an accurately fitted immobile corset was made, adapted to the deformity.

The use of extension previous to, and during the adjustment of the plaster-of-Paris bandage, is considered by the author of the work before us an essential integrant part of the treatment. Dr. Sayre visited England during the last summer, and while there he made numerous applications of his method in several of the hospitals in London and elsewhere, and in the presence of some of the most distinguished physicians and surgeons of Great Britain.

The volume we are noticing was published in London, and contains the history of his first employment of the dressing, and the narration of many cases in which it has been used, both in this country and in England.

It was towards the end of the year 1874 that the first full plaster dressing was applied. The majority of the cases cited occurred during the year 1876 and 1877. The principle upon which this device is founded is undoubtedly the true one, namely, that upon which we act when treating a fractured bone. The diseased spine should be kept immovable, and it should be relieved of all superincumbent weight.

Those who have had much experience with this disease have constantly had occasion to remark the relief which is afforded by support of almost any description. Any arrangement which will brace the trunk is most gratefully received. A simple bandage wound around the body is acceptable, and the firmer the support, the greater the relief obtained. This fact accounts for the degree of success, often only temporary, which attends the use of the numerous instruments which have been devised for the treatment of spinal disease. The best of those which are intended to be worn while the patient is moving about are based, in accordance with the principle above stated, upon the theory of antero-posterior support combined with an attempt to prevent motion and pressure.

A description of an apparatus constructed to fulfill these three indications was published by the writer of this review in 1858. This instrument, with modifications from time to time, was constantly used by him for some years previous and subsequent to that date, and, thus modified, is employed to the present time, in cases adapted to that method of treatment, and especially in the convalescent stages of the disease. More recently (in 1863), Dr. C. F. Taylor of New York described an instrument formed upon the same principles and now known by his name.

It appears to us probable that Dr. Sayre's "plaster-of-Paris jacket" may prove to accomplish the indications of immobility and relief from superincumbent pressure better than any other appliance, allowing locomotion, which has hitherto been devised. That it will supplant all other treatment, and that it is applicable to every case of caries of the spine, and in all its stages, surgeons who have experienced or have witnessed the remarkable results of absolute rest will be slow to believe. By rest is here meant not simply lying in bed, with occasional sitting up, or rising on the elbow, and other movements, such as circumstances may seem to require, but complete physiological rest, — rest, therapeutic in its influence, and, combined with extension so applied as not



only to prevent all movement of the diseased vertebræ, but also to render pressure upon the inflamed or carious surfaces impossible, and this united with such local applications as the case may require and with a thorough hygienic and constitutional régime; a rest from which the patient rises fat, with red blood, with restored health, and often without deformity.<sup>1</sup>

Dr. Sayre's surgical skill and his scientific application of a fertile, inventive genius command our respect. His enthusiasm in the branch of surgery to which he has chiefly devoted his time, talent, and energies is well evinced by the ardor with which he has advocated, and consequently extended, his treatment of Pott's disease.

There is one point connected with this treatment to which we have not referred. The skin is an important organ. The healthy performance of its functions is of momentous consequence in the role of general health. In an æsthetic, as well as a sanitary point of view, the prolonged occlusion of so large an extent of cutaneous surface from the beneficent influences of air and water, with the unavoidable accumulation of secretions, is a consideration not to be overlooked when contemplating the adoption of the plaster-of-Paris bandage in any particular case.

The method of treatment for the exposition of which the volume before us was written is of recent birth. It is only after prolonged experience, on an extended scale, in the hands of skillful surgeons, and under the eye of the medical public, that this new appliance will find its true place among the resources of our profession, in the treatment of spinal caries, or in certain stages of the disease.

We are using the "plaster-of-Paris jacket" in cases and under circumstances to which it is deemed peculiarly applicable. The results of these investigations will be made public, after sufficient time has elapsed to enable us to give a fair analysis, and to form a correct judgment on the merits of the treatment in the complaint we have been considering.

The latter portion of the volume is devoted to rotary-lateral curvature of the spine.

The treatment of this affection by the same dressing as that which is applied in vertebral disease, is advocated. On this point we feel obliged to differ *in toto* from our author.

The two complaints are far removed from each other pathologically; and also in ætiology, in symptoms and in results. The treatment of lateral curvature, in our opinion, should be for the most part utterly dissimilar, in fact the opposite, to that which is appropriate in inflammation or caries. One is a disease of the bone, or of fibro-cartilage, or more frequently of both tissues. The other is a disturbance of equilibrium, arising sometimes from habits of malposition, but in far the larger number of instances it originates in muscular and nerve debility, or from a combination of these causes.

Lateral curvature of the spine, generally, perhaps always, complicated with rotation, — when unconnected with disease within the chest, — is sometimes

<sup>1</sup> The writer of this notice intends to prepare for the press a paper upon Caries of the Spine in which his experience and views will be given more at length than is admissible in a brief review like the present.



presented to our notice in a person young, healthy, and even robust in appearance. Under such circumstances, it is evident the complaint does not originate in debility. It undoubtedly arises from some vicious habit of standing, walking, or undue use of one arm, or from habitually carrying a weight on one side, as in resting a child on one hip, etc. In another class of cases, and as we have previously said, this is far the larger class, the patient has thin, weak, yielding muscles, is anæmic, nervous, and is otherwise undertoned, often without being decidedly an invalid. The cause of the spinal curve is evident, and it often seems to be a matter of chance in which direction the chain of bones yields. In still others, the curve may be traced to a combination of the above mentioned causes.

Such being the ætiology of lateral curvature, our local treatment should be as diametrically opposed to that which is to be pursued in Pott's disease as is the pathology of the two affections.

We can hardly imagine any combination of circumstances which would induce us to incase a young, growing girl, in the early stages of lateral curvature, in plaster-of-Paris. In those cases to which we have referred as arising from general debility, we think the curvature can be relieved more thoroughly, more permanently, and more naturally, by other methods than by inclosing the trunk in unyielding walls, where healthy play of the muscles is almost, if not quite, impossible, while at the same time we are not prevented from employing local as well as general tonics. The very reasons which may, under certain circumstances, render such a course appropriate, where we have to deal with diseased bone, will hold as an unanswerable argument against its employment in lateral curvature. The small amount of special spinal exercise afforded by "self-suspension," for a few moments twice a day, as advised by Dr. Sayre, will not obviate the effects of inaction of muscle, ligament, and bone. Absorption of adipose tissue and muscular atrophy must inevitably follow.

In such cases every hygienic influence that we can command should be called upon to assist in removing the constitutional debility, as well as the local affection.

The patient should not be debarred, by any appliance which may be used to remedy the curvature, from the great, the all-important benefit to be derived from massage and friction, from bathing, and from the active and varied use of the muscles attached to the spine.

In those cases where the patient is in good health and flesh, the effects of confinement and pressure above alluded to must be still more apparent. In the more advanced stages our objections would still hold good, and it is only in confirmed scoliosis, where a simple, firm, cheap support is required to enable the patient, with greater ease, to pursue his or her customary avocations, that we should be willing to recommend the employment of the plaster "jacket."

While in conclusion we decidedly express our opinion as adverse to the application of the plaster-of-Paris bandage in scoliosis, we think in some circumstances, as one of the remedial agents in carious cyphosis, its use will prove a valuable resource. For its introduction to the profession in these cases, although servicable, perhaps, in a more limited sphere than was originally intended, we are indebted to Dr. Sayre.

B. B.

REMSEN'S THEORETICAL CHEMISTRY.<sup>1</sup>

IN this little book of two hundred and twenty-eight pages we find the most complete explanation of the new chemical nomenclature which we have seen.

The work is divided into two parts. The first consists of a "general discussion of atoms and molecules," and the second explains the "constitution or structure of chemical compounds." In the first part the history of the development of the atomic theory and the reasons which lead to the present distinction between the atomic and molecular weights of an element are briefly but clearly given. Also the valence or atomicity of the elements is explained as clearly as possible in the present state of our knowledge. The second part is devoted to the explanation of the molecular structure of chemical compounds, structural formulas being discussed at considerable length.

We most heartily commend this book to those readers who wish to know "exactly upon what basis our conceptions of chemical constitution rest," since they will find here in a small space those facts and explanations which elsewhere are only to be found scattered through various works and in a form much less easily comprehended.

W.

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THE FUTURE.

WE have a few words to say to our readers about our plans for the future and some of the changes which have taken place with the advent of a new year, and we must avail ourselves of this opportunity to allude first of all to the valuable services of our associate, Dr. Thomas Dwight, who retires from the position of editor, so ably filled by him for five years. The many changes which the JOURNAL has undergone during this, a not uneventful, period in its history, and the favorable results which have followed therefrom, are in no small degree due to his able management and his courageous stand in delicate questions involving professional interests or public welfare, where his power for satire or praise and his ability in argument have forcibly displayed themselves, and have contributed to the increased influence exerted by the JOURNAL upon the community as well as the profession in which it circulates. We shall still have the benefit of his services in the department of anatomy. For the details of other changes we would refer our readers to the publishers' announcement. It will be seen that the JOURNAL means to keep abreast of the times, and to anticipate rather than to follow the metamorphoses which medical periodicals in this country are slowly but surely undergoing. The recent termination of the brilliant career of the *British and Foreign Medico-Chirurgical Review* is a significant fact. The taste of the present day is undeniably in favor of weekly rather than quarterly or even monthly issues of brief and varied contributions, giving the latest ideas at the shortest notice. A good journal should also be cosmopolitan. This is a feature which, we are glad to see, is becoming

<sup>1</sup> *Principles of Theoretical Chemistry, with Special Reference to the Constitution of Chemical Compounds.* By IRA REMSEN, M. D., Ph. D., Professor of Chemistry in the Johns Hopkins University. Philadelphia: Henry C. Lea. 1877.



more characteristic of our prominent journals, and is one which we propose to keep well in view. We trust that our efforts in this direction will be seconded, not only in more distant parts of the country, but also nearer home in New England, where the large number of medical organizations offers a fruitful field for clinical observation. All our large cities will be represented to an extent such as space will permit. These, in brief, are our aims for the future we trust that it may prove an eventful and beneficial one to medical literature in this country, and that the time is not far distant when we shall have no longer a series of sectional magazines confined to narrow limits, and when the tidal wave of miscellaneous periodical literature which is now sweeping over us shall have subsided that there will be left to us a few prominent national journals, read in every State, and serving as a common ground where every American physician may meet and profit by the work of his fellow countrymen.

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### MEDICAL NOTES.

— There are thirteen vacancies in the medical corps of the army, which will be filled by the appointment of such persons as may pass a satisfactory examination before the board now in session in New York city, consisting of Surgeons Joseph B. Brown, Joseph H. Bell, and C. H. Alden, United States Navy. This board, which met on the 7th of November, will probably remain in session until the latter part of February, to select suitable persons for appointment to the corps.

— Dr. Telkamp, the military medical expert in New York for the German empire, states that he has been examining a large number of Germans lately and issuing certificates to them showing their physical condition. This was done for the benefit particularly of those subjects of the Emperor William who do not intend to become citizens of the United States, and who expect some time in the future to return home. Under the old rule it was necessary for German subjects to appear in person for examination before the home medical authorities, but recently that rule has been relaxed, and now a certificate issued here is accepted by the home government, and saves the subject from fine and imprisonment if he returns to Germany.

Since the hard times set in, Dr. Telkamp has had numerous applications from Germans to be sent home for military service, preferring life in the camp to lack of work and food in America; but he says he has no provision to furnish transportation. Many applicants for examination resort to expedients of all sorts to secure "inability" certificates, and when they fail they become very indignant. The doctor says that under the laws of Prussia, "if the subjects in this country do not return, they are held to be Prussian subjects who have run away from conscription, and at any time in the future, if they return, they are liable to arrest. If in the mean time they become American citizens their offense is overlooked somewhat, but complications may arise at any time."

Dr. Telkamp is a citizen of this country, and has held the position of medical examiner for the Prussian government for over three years, and has issued hundreds of certificates during that time.



— An institution to be known as the Good Samaritan Hospital has been established in New York for the treatment of piles, fistula, fissure, and similar diseases, which are said by members of the medical profession to be among the most common maladies, but which will readily yield to proper medical treatment. The idea of such a hospital first took shape at a meeting held on December 10th, at the residence of Dr. E. J. Bermingham, of *The Hospital Gazette*, at No. 102 West Forty-Ninth Street. The officers of the board of managers are: Joseph C. Tracy, Peruvian consul in this city, president; William Lindsay, vice-president; Dr. E. J. Bermingham, secretary; M. V. B. Travis, treasurer. The medical board consists of Drs. Willard Parker, W. H. Van Buren, F. H. Hamilton, H. B. Sands, and E. J. Bermingham. The dispensary department of the hospital it is expected will be opened about January 1st. Families whose income is less than ten dollars a week will be treated gratuitously, but a small charge will be made for those whose income exceeds this sum. There are only two similar institutions in the world: one is in London and the other in Marburg.

— The Connecticut River Valley Medical Society has issued to some of its members a printed list of memoranda to be taken of the more prevalent forms of acute disease. Certain members are assigned to given portions of this work, which promises to be pregnant with valuable results.

— The new building for the Worcester Lunatic Hospital, which has been in process of construction for several years, is now completed and occupied. It is delightfully situated near Lake Quinsigamond, about two miles from the Union Passenger Station. The location possesses every hygienic advantage, excellent drainage, freedom from noxious emanations, sunny exposure, and ample grounds for exercise and recreation. The valley of Lake Quinsigamond, with the play of light upon the surrounding hills, dotted by farm-houses and villages, is a charming, ever-changing panorama. The hospital is prepared to furnish extra accommodations, suites of rooms, special attendance, etc., to those who desire something more than the ordinary hospital surroundings. Particular information can be obtained by addressing the superintendent, Dr. B. D. Eastman.

— A young German had all the symptoms of inguinal hernia. He repeatedly vomited round worms, and the knuckle of protruded bowel felt as if it were filled with worms. Five days later herniotomy was performed, and the hernial sac, which had an intensely bluish-red color, was found to be distended with worms. Before the wound healed worms crawled out between its lips, the patient voided more by mouth and rectum, and for six days continued to discharge them in the evacuations, after which the wound healed and the trouble disappeared. — *Wiener med. Presse*, No. 30, 1877.

— For an interesting paper on the endoscopic examination of the urethra in gonorrhœa, by Grünfeld, of Vienna (Sigmund's assistant), see the *Allg. med. Zeitung* for November 20, 1877.

— The Germans propose to lengthen their already comparatively long period of study for a medical diploma. Read Pfeiffer's letters in Nos. 46 and 47 *Deutsche med. Wochenschrift*, 1877.

— Cohnheim and Birch-Hirschfeld are both mentioned in connection with

the chair of pathological anatomy in Leipzig, and it is rumored that the faculty mean to offer it to Von Recklinghausen, who probably will decline it. Volkmann, of Halle, has declined a call to Würzburg.

— Very readable medical letters from the seat of war (Turko-Russian) in *La France médicale*, beginning November 28, 1877.

— Mettenheimer reports a case of echinococcus of the heart. Symptoms were those of left-sided pneumonia complicated by convulsions, epileptic in character, during one of which the patient died. *Necropsy*. Lungs very hyperæmic; heart fatty along the course of coronary arteries; brain anæmic, cortex very dark gray. In the muscular substance of left heart three echinococci cysts; a fourth in the right ventricle. None elsewhere. Whether the epileptic attacks and the presence of the animal in the heart stood in causatory relation with the death is left an open question. — *Allg. med. Zeitung*, November 6, 1877.

— We have received a circular from the city Board of Health from which we make the following extracts: Whereas, diphtheria is a disease contagious and dangerous to the public health, and whereas it now exists in the city of Boston; therefore the Board of Health issues the following notice: That on and after January 1, 1878, the following provisions of Chapter 26 of the General Statutes will be strictly enforced:—

“Sect. 47. When a householder knows that a person within his family is taken sick of . . . any . . . disease dangerous to the public health, he shall immediately give notice thereof to the . . . board of health of the town in which he dwells. If he refuses or neglects to give such notice he shall forfeit a sum not exceeding one hundred dollars.

“Sect. 48. When a physician knows that any person whom he is called to visit is infected with . . . any disease dangerous to the public health he shall immediately give notice thereof to the . . . board of health of the town, and if he refuses or neglects to give such notice he shall forfeit for each offense a sum not less than fifty nor more than one hundred dollars.”

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## MASSACHUSETTS GENERAL HOSPITAL.

### SURGICAL CASES OF DR. WARREN.

*Ruptured Perinæum*. — The operation performed in the following cases was that known as Emmett's,<sup>1</sup> the prominent feature of which is the use of a limited number of deep sutures, buried in their whole extent, the first and second being so inserted as to secure the ends of the sphincter ani muscle. No rectal or vaginal sutures are ordinarily employed. The after-treatment is the same as here described.

CASE I. *Rupture through the Sphincter*. — M. D., twenty-seven years old, had suffered from complete rupture of the perinæum for six years. There was inability to retain feces, a movement following upon the first sensation of a desire to evacuate the bowels. No symptoms of uterine disorder existed, although a vaginal examination revealed complete retroflexion of the uterus.

<sup>1</sup> See JOURNAL, November 29, 1877, page 609.



The patient entered by appointment a few days after the catamenia had ceased. Rest in bed was enjoined for a day or two, and all faecal accumulations were removed by the use of tincture of rhubarb followed by an enema on the morning of the operation. The patient, being etherized, was placed in the position for lithotomy; the vagina was then syringed out with a weak solution of carbolic acid, and the parts thoroughly cleaned and shaved. The surfaces to be brought together were denuded by a pair of curved scissors. Six deep sutures were taken, the lowest being below and not at the side of the angle of the wound, and thus passing through the full thickness of the end of the lacerated muscle; two superficial sutures were also taken. These being tightened and twisted, the ends of the muscle were brought effectually into apposition, the edge of the septum was pulled down to the inner margin of the anus, and, as could be determined by passing the forefinger into the vagina and holding the thumb on the perinæum, a broad perineal body was formed. The vagina was then syringed out, and the knees placed together and tied; no dressing was applied. Liquid diet was ordered. The urine was drawn with a catheter during the healing process. The wound was left to itself for forty-eight hours, but after that was syringed out daily with a weak solution of carbolic acid. Accumulations of wind in the rectum were relieved by frequent catheterization. Considerable tenesmus on the evening of the day of operation was relieved by opiates. During the first eight days there was some swelling, accompanied by fever; pus began to ooze from the tracts of the sutures, and the parts held by the upper one gave way, the wound gaping at the fourchette. For these reasons the sutures were left in longer than laid down by Emmett. On the twelfth day the two lower sutures were removed and the sphincter found to be united. The bowels were moved by castor-oil on the eighteenth day, the mass of hardened feces having been softened down by enemata of small quantities of sweet-oil thrown in at intervals for two days previously. The remaining sutures were left in until the twenty-first day, when the place which had yielded had nearly healed by granulation. A short but thick perinæum and a reliable sphincter were the result.

CASE II. M. D., a stout French Canadian, thirty-six years old, was sent to me by Dr. E. H. Stevens, of Cambridge. She had suffered from incontinence of feces for three years. Complete rupture was found, and in this case the dimples formed in the cicatricial tissue by the ends of the divided sphincter were well marked. The same method was carried out in all its details as described in the previous case. Seven deep sutures were taken. There was little or no swelling or tenderness beyond a slight cutaneous irritation from the secretions. The thermometer did not go above 100°. Accordingly, in pursuance of Emmett's directions, the bowels were moved at the end of a week, the perinæum being carefully supported by an attendant during the evacuation in this as well as the other cases, and the next day the sutures were removed, union being apparently perfect throughout. Four days later, the patient having been kept quiet and no movement having taken place in the mean time, an examination showed that an opening had formed in the centre of the perinæum, and a probe passed into it found its way into the rectum. This fistula, as it were, subsequently closed, and Dr. Stevens informs me that



an examination made three months after the operation showed a well-formed sphincter and a perinaeum about an inch and a half thick. This patient nursed an infant throughout the treatment.

CASE III. S. E., a middle-aged woman, applied for relief from a cystocele forming a protuberance at the vulva the size of a hen's egg. The sphincter was uninjured; there was also a short margin of cutaneous perinaeum, but the perineal body was absent, the subcutaneous portion being sundered, and the inside of the skin being consequently in contact with the rectal wall. The parts were pared as in operation for a new perinaeum, but the line of denudation was continued on the posterior wall of the vagina to within an inch and a half of the extremity of Douglas's cul-de-sac. Four deep sutures were taken in the perinaeum, and the long strip of vaginal wound was brought together by superficial sutures. This operation was performed in imitation of that described usually as posterior colporrhaphy. The posterior wall pressed so firmly against the anterior wall that it was with some slight difficulty that the finger could be introduced. It was thought best, therefore, to leave a catheter in the bladder, and a soft rubber one, hardened at the urethral part by collodion, was inserted. The bowels were moved on the sixteenth day; the catheter was withdrawn on the seventeenth day, and the external sutures were taken out at the end of three weeks; an interval of two weeks was allowed to pass before the vaginal sutures were removed. Union was perfect throughout. The patient was seen some months after the operation, and the new perinaeum was found to hold up the cystocele most effectually.

CASE IV. Mrs. G., twenty-six years of age, had a complete rupture for four years. The edge of the septum was a little higher up than in the other cases, showing that a portion of the lower edge of the rectum was included in the rent. She had an operation done a few months ago without the slightest benefit. She had complete incontinence, and a feeling as if the parts were "dropping out" whenever she walked. The catamenia were profuse. The same operation was performed as in the first and second cases, with the addition of two rectal and a number of vaginal sutures. The after-treatment was the same. There was no pain, or swelling, or fever during the week. On the eighth day a desire to evacuate the bowels was accompanied by oozing of softened faeces from the rectum. Enemata and castor-oil were administered, and a very large amount of faecal matter came away, several movements taking place during the next forty-eight hours. A few days later a fistulous opening was found, as in the second case, communicating with the rectum. This increased in size until, at the end of three weeks, the sphincter was torn apart. The vaginal edge of the wound, as well as the upper part of the perineal surface, had united firmly.

In two other cases at which I assisted the result was similar to that which followed this last operation. A third case, known to me, operated upon by this method, was perfectly successful.

It may be said of this operation that it succeeds in restoring the parts to a shape accurately resembling the normal condition. The tension of the lower stitches is, however, great, no matter how much care may have been taken in the adjustment. The edge of the septum, which has been dragged down to

the new outlet, is subjected to considerable strain, which is greatly increased by accumulations of air or fæces in the rectum or by swelling of the parts. There is great danger, therefore, that the lower stitch will tear through, the septum retract, and an opening form through which fæces will bore until an opening is made in the floor of the perinæum between, usually, the second and third stitches. If the sphincter has firmly united this tract may close up, as in the second case, by granulation, but the danger is that it will be gradually torn apart, as in the fourth case. It is important to stretch the fibres of the sphincter previous to bringing them together. This cannot be done by the ordinary method of dilating the anus, as the muscle no longer encircles it, but lies at its posterior border extended in a nearly straight line. Its terminal points can be distinctly made out by the dimples formed in the cicatricial tissue where the two are adherent to one another. A slight irritation of the muscle will cause it to contract and the dimples to deepen. To stretch such a muscle it must be seized by the thumb and forefinger of each hand and "pulled" (as one would molasses candy).

This operation, apart from one weak point, seems to fulfill admirably the indications required, and when successful restores the parts more nearly to the normal condition than any other method which I have seen. The same element of weakness is found in all methods, whose differences consist merely in variations of the form of stitch used, namely, the presence of a freshly united wound (whether linear or puckered) at the lower end of the anterior wall of the rectum. As the bowel at this point takes a backward curve towards the anal orifice the anterior wall becomes, as it were, the floor of the rectum, and is obliged to sustain the pressure of the accumulating mass of fæces. The parts are placed upon the stretch, the septum tears away from the circular stitch, retracts, and the fæces, following the direction of the long axis of the rectum, which is also the direction of least resistance, emerge through the perinæum between the second and third stitches. In other methods, where the perineal body formed has not the thickness of Emmett's, and the rectal wound extends higher up, the fæces escape into the vagina. The difficulty consists, not in getting the sphincter to unite, but in keeping it from being torn asunder. Could we by a plastic manœuvre do away altogether with the rectal wound we should have a problem nearly as simple as the formation of a perinæum when the sphincter has not been ruptured. This, perhaps, might be accomplished by dissecting up from within outwards a flap of mucous membrane from the posterior wall of the vagina, which being folded over (as in turning out one side of a hat lining) would elongate the septum and bring a continuous mucous surface to the point previously occupied by the rectal wound. The flap might easily be so continued laterally as to uncover the ends of the sphincter, which, the remaining lateral surfaces having been denuded, could be brought together over the flap. This, if sufficiently long, would then be found projecting from the newly formed anus, and could be stitched to its *external* margin. There would be no wound in the rectum, and thus the greatest obstacle to success would be overcome.



## LETTER FROM CHICAGO.

*Improved Medical Education in the West. — The State Board of Health of Illinois.*

MESSRS. EDITORS, — The profession of the West have in all the years past demanded an improvement in our system of medical education. It is a mistake to suppose that the East has solely or chiefly seen the need of a change. The error some of us made was in thinking that we could by a slight rearranging of the order in which the time-honored curriculum was taught revolutionize medical teaching and improve greatly the character of graduated doctors.

It has lately dawned upon us that more must be taught, and taught in more ways, that more time must be had for teaching it, and that better preparation must be had before medicine is taught at all. This conclusion we had reached before the recent improvements in the course at Harvard, albeit that was its first recent embodiment in practice. The course now pursued at Harvard is greatly admired by the whole Western profession, even by the managers of the worst of our medical colleges. I think there is no medical teacher in the land who would not be glad if every student in every college were compelled to take as thorough and as long a course as is now required at that school. But Western students do not in any numbers reach the standard of your editorial precept, to be sure of a competence for a number of years before taking up the profession of medicine. They are mostly poor, many are poorly educated, and all must get through rapidly and get into practice and the earning of a livelihood. What is worse, the Western professor, too, is poor. Verily, commercial expediency alone has been able to prevent Boston from having a large number of Western rivals in the more substantial and radical reforms. Nor are we who are out of all management of medical colleges always quite innocent of the charge of inconsistency. The man who yesterday complained of the lack of education, both general and professional, of the new practitioners who swarm about him to be his competitors and associates, to-day allows his name as preceptor to be used — just for this time — by students at colleges where diplomas are ground out in the very shortest time. Thus, by the weakness of the “ins” and “outs” of the colleges are we kept, the country over, from going forward to the civilization of a century ago, when, as Dr. Pepper shows, the medical education at Philadelphia had a standard not far different from that lately inaugurated by her own university and previously by Harvard. Among Western colleges those in the van of improvement proclaim the higher course, while in fact they follow it, if not afar off, at some little distance. Those which hold the brakes down confess a desire for a gradual advance and the millennium, advise students to take a thorough course, but say the time is not yet ripe to *insist* on thoroughness and high things.

But the plan at Harvard is not to go uncriticised. In an opening lecture by the dean of one of our colleges he animadverts upon the fact that only one year (or course) of actual college attendance is required as a condition of graduation at Boston, while in his college this, the last course, — of nine months, — as



well as a previous course there or elsewhere, is required.<sup>1</sup> While the argument that qualifications alone should determine the question of graduation has much in its favor, yet, considering all the circumstances and facts in this matter of medical education, it is not hard to see some justice in this criticism. It is true that you cannot be sure that a man will remember, and have as a part of his mental self what he learns in medicine unless you are sure he has acquired this knowledge by long and continuous effort. The whole, or a tithe of the whole, cannot be tumbled into his brain in any brief period and stay there.

This year the Ann Arbor school has announced a step in the right direction in its lengthened course of nine months and its examination required as a condition to the matriculation of applicants not presenting an academical degree. Fully two thirds of all applicants are obliged to submit to this examination. The ordeal is not a trying one, the student's knowledge being tested to the slightest degree in geography, history, arithmetic, and physics, in a very brief examination paper. More stress is laid upon his ability to correct all the errors in a few sentences of very bad English which his paper contains. Rudimentary as it is, it is vastly better than nothing, and as far as it goes is altogether good. Its fruits appear in the few rejected candidates.

A new physiological laboratory is announced, but it is a serious weakness in the new *régime* that work in it is not obligatory for candidates for graduation, as is the case with the excellent chemical laboratory of this school. It is another fault in the plan that recitations in certain branches are not established as regular exercises. The change in the programme has not lessened the class of the present year; indeed, this shows a substantial gain.

The Chicago Medical College has also made a new departure in demanding an examination similar to that described above, preliminary to matriculation. This year nearly half the applicants at this school underwent examination; of these about twenty per cent. were rejected. Notwithstanding this the class is ten per cent. larger than that of last year. A change has been made also in the arrangement of the college year, and the curriculum is divided, as heretofore, into three years of study, and is properly graded. The innovation consists in the "college course," now being made to comprise both the spring and the following winter lecture seasons, which are designated the two terms of the course. The conditions of graduation announced include this: that the last of two or more *courses* must be attended in this college. If the college adheres to the letter and requires that the last course attended shall include both

<sup>1</sup> Our correspondent refers to an address by Prof. A. B. Palmer, delivered at Ann Arbor last October. The following passage is, no doubt, the one in question:—

"Twenty-eight years ago the University of Michigan established six months' courses of lectures, but her example was not followed until Harvard College very recently came forward and instituted a nine months' course,—charging for it, however, two hundred dollars,—and absolutely requiring only one such course, though, in common with all other respectable schools, demanding a certificate of three years' study of medicine, however much or little that certificate may mean, in order that the student may present himself for graduation."

We noticed at the time the false impression this was calculated to give, but did not think it worth notice. Since, however, our correspondent has been deceived by it we think it right to remind our readers that any applicant for advanced standing at Harvard must pass an examination in all the branches in which the class to which he desires admission has been examined. Professor Palmer's ignorance of this law, which has been extensively advertised, is astonishing. — EDS.

a spring and winter term, an advance will really have been made. Barring the absence of a requirement of practical work in either a chemical or a physiological laboratory, this course might then fairly compete with Harvard.

I think the feeling is very strong in the West, by the best students of medical education at least, and has been since the meeting here of the Association of Medical Colleges last spring, that very little can be accomplished toward bettering the condition of affairs by that institution. If we are obliged to wait till all the colleges unite, or agree to unite, in a higher grade before a step is taken, we may expect to wait a long time. The substantial progress comes, and will come, from an improved public and professional sentiment in the matter; by the profession evincing a more general dissatisfaction with the existing as well as the past condition of things; and by such colleges as have reputation, backbone, and high purposes acting independently.

Something has been expected from our new State Board of Health toward a general improvement in the qualifications of the profession in Illinois. As the board has only the power to drive out a very few bad quacks and to deter a few others from coming, it will be seen how very little they can do toward elevating the standard of the acknowledged practitioner. The board cannot foster high education; it may only insist that all who have settled in the State for practice within ten years shall have — or have documentary evidence of — at least the lowest education allowable anywhere. Considering the very low grade of evidence (that is, diplomas) insisted on, and the amazing ease — both as to qualifications and time — with which such evidence may be had by almost anybody, and in view of the dangers of the evidence having been tampered with or simply bought for fifty dollars, what can we hope for from even the best management and care on the part of the board? Worse still, what injury may not be done by the slow education of the public into the notion that the certificate and permit to practice of the board puts all doctors possessing it on a level? We notice that the quacks and men nearest them always display conspicuously the handsome diploma of the board, while the best men are apt to keep it out of sight.

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COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING DECEMBER 22, 1877.

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	402	19.41	27.46
Philadelphia	850,856	305	18.64	22.88
Brooklyn	527,830	162	15.96	24.31
Chicago	420,000	122	15.10	20.41
Boston	363,940	108	15.43	23.39
Providence	103,000	47	23.73	18.34
Worcester	52,977	16	15.71	22.00
Lowell	53,678	17	16.47	22.21
Cambridge	51,572	18	18.15	20.54
Fall River	50,372	15	15.48	22.04
Lynn	34,524	10	15.06	21.37
Springfield	32,976			19.69
Salem	26,739	6	11.67	23.57



OBITUARY. — Dr. Joseph S. Jones died at his residence on Bowdoin Street, on Saturday last of pneumonia. His name is well known to the profession in this vicinity as a physician of large experience. He was for three years city physician. He is better known to the public as the writer of plays, many of which have enjoyed considerable reputation and are familiar to the patrons of the Boston Museum. The last of these was *Paul Revere*. He was born on September 28, 1809, and while still quite young manifested a liking for the stage. He was for many years a member of the stock company of the old Tremont Theatre, and it was not until 1843 that he took his diploma from the Harvard Medical School. Since then he has devoted himself both to play-writing and the practice of his profession. He was for many years the physician of Miss Charlotte Cushman.

OBITUARY. — Dr. Austin L. Sands, of Newport, R. I., died at Cairo, Egypt, December 20th. His death was caused by a brutal assault upon him, at a late hour of night, during the summer of 1876. The criminal was arrested in New Bedford, Mass., and is now serving out his sentence of twenty years' hard labor in the state-prison. It appears that the man first knocked Dr. Sands down and then robbed him, leaving him to die on the roadside. Towards morning he became conscious, and was able to reach his residence. He lay at death's door for a long time. He was able to go South last winter, and last fall he determined to make a journey to Egypt, and a few weeks ago, accompanied by his family, he went to Europe. So enraged were the members of the reading-room upon learning of the assault which had been committed that they clubbed together and raised a purse of nearly three thousand dollars, which they offered as a reward for the capture of the man. The deceased was related by marriage to many of the old Knickerbocker families of New York, and his successful practice among the summer visitors had enabled him to acquire a handsome fortune. He has never been able to practice since he was assaulted as stated above.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — At a meeting of the society to be held on Monday evening next, at eight o'clock, at its rooms, 36 Temple Place, Dr. Wigglesworth will read a paper upon Auto-Inoculation, especially of Vegetable Parasites of the Skin.

BOOKS AND PAMPHLETS RECEIVED. — *Pneumono-Dynamics*. By G. M. Garland, M. D., Assistant in Physiology, Medical Department, Harvard University. New York: Published by Hurd and Houghton. Boston: H. O. Houghton & Co. Cambridge: The Riverside Press. 1878. Pp. 153.

*Diseases of the Nasal Cavity and the Vault of the Pharynx*. Translated from the German of Dr. Carl Michel, of Cologne-on-the-Rhine. With an Introduction by E. L. Shurly, M. D., and C. C. Yemans, M. D., of Detroit, Michigan. First American Edition. 1877. (From A. Williams & Co.)

*A New System of Medicine, entitled Recognizant Medicine; or, the State of the Sick*. By Bholanath Bose, M. D. Lond., M. R. C. S. Eng., H. M. Indian Medical Service. London: J. & A. Churchill. 1877.

*Principles of Rational Therapeutics*. By Bholanath Bose, M. D. London: J. & A. Churchill. Calcutta: Thacker, Spink, & Co. 1877.

*A Case of Syphilitic Aphasia*. By L. P. Yandell, Jr., M. D. (Reprinted from the Medical News of December 8, 1877.)

*Annual Report of the Pennsylvania Free Dispensary for Skin Diseases*. Philadelphia. 1877.

*Transactions of the American Neurological Association for 1877*. Volume II. New York: G. P. Putnam's Sons. 1877.

*Cyclopædia of the Practice of Medicine*. Edited by Dr. H. von Ziemssen. Vol. XIV. *Diseases of the Nervous System and Disturbances of Speech*. New York: William Wood & Co. H. D. Brown & Co., Boston, New England agents.

ERRATUM. — The prescription at the top of page 745, in the last number, should read as follows: —

R̄ Sodii bromidi,  
Potassii bromidi,  
Ammonii bromidi . . . . . āā 3 iij., etc., etc.



# THE BOSTON MEDICAL AND SURGICAL JOURNAL.

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## LECTURES.

BOSTON CITY HOSPITAL: CLINICAL LECTURE.

BY DAVID W. CHEEVER, M. D.,

*Professor of Clinical Surgery in Harvard University.*

GENTLEMEN, — The first case I have to bring before you is that of a girl ten years of age. This is a supposed case of assault, committed by some unknown man. Such a charge should always be accepted with a grain of allowance because of the excitement of the child, or because parents may be disposed to quarrel with a neighbor, and so bring a suit against him on a false accusation of rape. In these cases we cannot be too careful. Children of tender years do have vaginitis as a result of worms or of masturbation. It may cause adherence of the nymphæ. There is, at any rate, a spontaneous vaginal discharge, and upon this are based suits which involve innocent persons, the child having had nothing to do with men. This child was first admitted to the hospital September 1st. She then had swelling of the labia and two sores on each side of the vulva. It is sometimes difficult to distinguish specific from ordinary sores, and the character of these may not then have been suspected. They were treated by sundry applications and rest, and the child was discharged well. On the 28th of November she was again brought to the hospital. Several days of careful cross-examination and cautious inspection of the affected parts have led to the discovery that while gathering chips on a wharf the child was violated by a stranger. This is the only history we have obtained from her. Two days ago I found a large fringe of condylomata around the anus, the remains of sores on the vulva, and, stranger still, a sore in the corner of the mouth. It is a well-marked case of secondary syphilis. In their medico-legal bearings such cases make it necessary to decide the question as to whether syphilis be present. We must try to determine whether the sore in the mouth be another primary chancre or a part of the constitutional affection. Yesterday another sore appeared in the opposite corner of the mouth, and there is now no doubt that both are secondary. If the patient were left long enough without treatment we should see sore throat. The affection of the mucous

membrane begins in white patches, especially at the junction of the mucous membrane and the skin. By friction and movement these patches develop into sores, yet chancre in the corner of the mouth is not unknown, and is followed by enlargement of the cervical lymphatics similar to bubo.

The treatment of a case like this should be mercurial. But in what form? Some writers recommend the chloride. It is a good remedy in chronic cases, but in my experience is slower than calomel. The protiodide is also good, but, of late, I rely more upon calomel than upon any other compound of mercury.

I now show you the child. Here are maculæ and condylomatous patches about the anus. One patch is above the skin. There are dark maculæ on the legs, and, as I shall show you, also on the rump. Here is a very distinct mucous patch on the vulva, and here are others; also the remains of chancres, as well as small vegetations on the labia. Finally, there are condylomata of mild type in each corner of the mouth.

I propose to give the child two grains of calomel daily, that is, one grain twice a day, combined with opium to prevent action of the mercury on the bowels. The condylomata, by the aid of dryness and powdered calomel, will get well. When they are large and moist, I use chromic or nitric acid. But in those which are thin and flat, dryness and the calomel powder answer every purpose. How far should the internal treatment be pushed? Until the gums are slightly spongy and the breath has the mercurial odor. When this condition is reached I shall reduce the calomel to one grain daily. In those instances in which the mouth becomes sore before we know it, a mouth wash of the chlorate of potash is needed. Under this treatment the child's skin and mucous membrane will probably clear up and get well.

In the hereditary syphilis of children, to give mercury by inunction is a good treatment, but care is necessary, because the mercury is sometimes absorbed very quickly. Rub the ointment into localities in which the skin is thin, as the armpits and groins.

*Necrosis.* — Our second case is that of a boy too young to give us his history, and there is no older person to do it for him. What is to be thought of this leg? In what does it differ from the left? Is it larger or smaller? Is it softer or harder? It is larger and harder than the other, and this is due to enlargement of the bone. What bone? The tibia, as we can see by bending the knee. Here is an open sore with pouting lips situated near the head of the tibia; also several scars, some of which are dimpled. A dimpled scar is caused by adherence of the skin to the bone, and is a sign that the sore, of which it is the cicatrix, penetrated to the periosteum and probably involved the bone. On passing my probe into the open sore, I find that it enters some distance into the shaft of the bone, thus showing an affection of the medullary



cavity. What is the character of the disease? Is it caries or necrosis? The child is scrofulous, and has scars and open sores. Caries is more apt to affect the extremities of bones, and is often due to low forms of inflammation. At any rate it prefers the extremities and the cancellated structure of bones. If I should cut down through the sore into the cancellous tissue and find a spongy, yellow cavity, filled with broken fat cells and blood, and so soft that it could be broken up with a probe, I could go on indefinitely digging away the softened bone. Such a condition of disease is caries or ulceration of bone, but such treatment is of no use, because we do not dispose of all the disease. It is like scraping off the surface of an ulcer and expecting it to heal at once from the bottom. Nature has not set a limit to the diseased process, but if there be reason to believe that pus is burrowing, we should give it a free outlet. In necrosis it is necessary to remove the sequestrum, if by gouging down we can find it. We thus get rid of a foreign body and stop the inflammation.

The symptoms here make me suspicious of caries, and especially the location of the open sore. But other symptoms are significant of necrosis, so that I am equally balanced between the two affections. Our best procedure will be to cut down and enlarge the opening into the bone. I should also call your attention to the weakness of the knee-joint, which bends outward, showing a lack of strength in the internal lateral ligament. In the other knee we find no such weakness.

This is an instructive case, not because it is rare, but because it is an ordinary, every-day case, and we meet so many like it. Our diagnosis is to be decided by operative interference, which will discover the true nature of the affection. To prevent undue hæmorrhage I will first apply the Esmarch bandage from the toes up to the thigh. Introducing my probe I find it fairly in a cavity. This is an indication of caries, and, as you notice, the diseased point is near the head of the bone. But the disease has been lower down, as shown by the scars. It will now be proper to make a crucial incision, and see if we can find anything within. You will observe my probe going down into the cavity. With my dressing forceps I tear away the *débris*, and within the cavity find dirty pus and a rough, hard bottom. This is unlike caries, and is probably necrosis. My probe goes quite a distance downward, but not upward. I think it proper to enlarge the opening into the bone. It is shaped like a bullet hole. By means of mallet and chisel I cut out a piece of bone, which I finally loosen and bring away with the bone forceps. This reveals the sequestrum, which, being quite large, will require further enlargement of the opening. I thus succeed in removing one large mass, which, practically, is a slough of bone. Beyond the site of the sequestrum the cavity seems closed. Nothing else remains than exfoliated fragments, and the bottom of the cavity is hard

and bounded by firm bone. I cannot say too much in favor of the Esmarch bandage, which has given us the opportunity to explore the bone without any hæmorrhage. As I remove the bandage you see the blush of the returning circulation as it comes down the leg, showing how perfect it is. Now we see an oozing of blood in the wound. How shall we arrest this hæmorrhage? By packing the bone cavity with small sponges. But I first put into the cavity a square of oiled cloth. When I take out the sponges, one by one, I shall have no difficulty, and shall cause no pain, because of the oiled rag. I now insert the cloth, pack in the sponges, and bandage over all. In twenty-four hours I shall remove the sponges and dress with antiseptic appliances, and keep the patient in bed. This will be the whole treatment. In six weeks the cure will probably be established.

*Compound Fracture.* — I finally have to show you a man who has just been brought into the hospital for treatment. While at work the point of a pickaxe in some way was driven entirely through his left hand, near the ulnar border. The result is a lacerated wound and a compound, comminuted fracture. The fifth metacarpal bone has been cut through. But I do not feel justified in treating or examining this case without ether.

In administering ether to patients who are fully dressed, we should be careful to see that there is no interference with the action of the diaphragm. Loosen the waistband and whatever there may be about the neck. This man has a leather strap about his waist, and this we remove. In females the corsets should be unfastened and the strings which hold the skirts untied. Otherwise the diaphragm will not have the free play which is vitally necessary, because after etherization we depend upon this muscle. When the patient has become insensible he sinks down in the chair, and still further impedes a diaphragm which may be already constricted by garments. If we have to turn an etherized patient upon his side, to examine the rectum, for instance, we must take care that the arm, which in this position is drawn back, does not become dislocated. Drawing back the arm causes the patient to fall forward, and makes it easier to examine or introduce a speculum into the rectum or vagina. One cannot be too careful, however, to keep the shoulders elevated; otherwise the movements of the thorax are interfered with, or the patient's face might fall into the pillow and he become suffocated.

I now examine our patient freely, and find that the injury is very ragged. The fourth metacarpal bone is all right, but the fifth has been so cut that a large piece is gone or has been driven down into the wound. The fracture is rough and comminuted. The upper fragment points upward and the lower downward and backward. The periosteum is mostly gone, and the missing bone cannot be renewed because of this loss of periosteum.



The best treatment will be to saw off the rough ends of the bone, remove all fragments, and afterward syringe out the opening daily with antiseptics; and, to promote suppuration, apply a flaxseed poultice mixed with charcoal to keep it sweet. Thus we treat the hurt as an open wound. In all lacerated and punctured wounds it is worse than useless to close them by stitches.

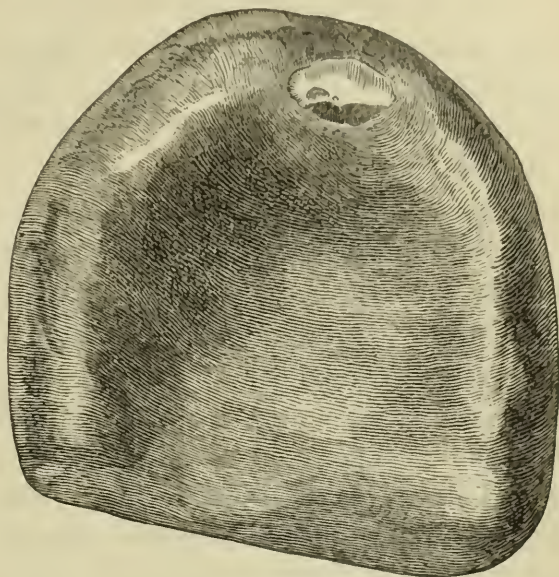
### A CASE OF THIRD DENTITION.

BY EDWARD J. FORSTER, M. D.,

*Surgeon to the Charlestown Free Dispensary and Hospital.*

THE history of the case from which the cast represented in the annexed wood-cut was taken is as follows:—

Henry L., an Englishman, seventy-seven years old last December (1876), twenty years ago had the teeth then remaining in his upper jaw removed on account of "neuralgia." About ten years ago two teeth appeared where the upper right central and lateral incisors had been. The new-comers were smooth, thin, and transparent; they became loose and were removed with the fingers,—the last one two years after its appearance. The position they occupied is shown on the cast by the roughened line to the left of the tooth now present.



C. A. Harris, in his *Dental Surgery*, quotes from Good's *Study of Medicine*, as follows:—

"For the most part, the teeth in this case (third dentition) shoot forth irregularly, few in number, and without proper fangs, and even where fangs are produced without a renewal of sockets. Hence, they are often loose, and frequently more injurious than useful by interfering with the uniform line of indurated and callous gums, which, for many years perhaps, had been employed as a substitute for the teeth."<sup>1</sup>

The tooth shown in the wood-cut made its appearance four years ago, and is serviceable, although the owner thinks it is "beginning to rot" and is afraid he will soon lose it.

In regard to the possibility of a third dentition, Harris says:—

<sup>1</sup> *The Principles and Practice of Dental Surgery.* By C. A. Harris, M. D., D. D. S., etc. Eighth edition, p. 176.

“That nature makes an effort to produce a third set of teeth is a fact which, however much it may be disputed, is now so well established that no room is left for cavil or doubt.”

Wedl,<sup>1</sup> in his *Pathology of the Teeth*, gives the names of eleven writers of recent times who have either seen or reported cases, but expresses no opinion as to his own belief, saying, “The possibility of the occurrence of a third dentition is doubted, and even openly denied by many.” The cast which was kindly made for me by Edward Page, D. M. D., has been deposited in the Warren Museum of Harvard University.

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## THE VOLUMETRIC METHOD OF WRITING PRESCRIPTIONS.

BY W. H. LATHROP, A. M., M. D., TEWKSBURY, MASS.

IN a recent article upon the metric system, Dr. T. B. Curtis very justly observes that the question of measuring as opposed to the weighing of liquids is one entirely distinct from the decimal system of weights and measures. I am strongly of the opinion, however, that the physician in prescribing liquids, whatever be the system employed, should use the volumetric rather than the gravimetric method. It seems to me that this whole question turns upon the method in which a preparation is to be administered. It being admitted that the medicine will be given out at the bedside by measure, should not the prescription be so written as to show how much it will measure? It is a question whether it is the business of a physician so to acquaint himself with specific gravities that he can express these measures in weight. What does a physician gain by such a mode of expression? Suppose, for instance, that it is desired that a patient shall have a solution of chloral in syrup, of the strength of one gramme of chloral to ten cubic centimetres of the solution. The physician directs, we will say, that the patient take five cc. at each dose, knowing that in this way exactly half a gramme of the active medicine will be received. Such a prescription, I am confident, would be in no way improved by translating the cubic centimetres to their equivalent in grammes.

When the liquids of a prescription are expressed in volume the physician can look over it and tell at once how many doses of each active ingredient it contains, and if the decimal system is used this is especially easy. Suppose that laudanum is to be prescribed in the dose of one cubic centimetre (sixteen minims), while five cc. is to be the dose of the prescription. If the liquids are expressed volumetrically the physician has only to observe that his tincture comprises *one fifth* of his whole prescription to make sure that the opiate appears in proper quantity. Here is exactness with celerity. Gravimetric expression, on the

<sup>1</sup> Translation from German, by W. E. Boardman, M. D., Philadelphia, 1872, p. 87.



other hand, would only be consistent with gravimetric administration. In many cases, of course, the bulk of a solution is materially changed by the addition of solid substances, but all danger of error is avoided by directing that the excipient be added till the whole solution reaches a certain bulk. It is a very good rule, I think, to prescribe the excipient in this way habitually.

Our pharmaceutical friends should not forget that in the separation of their profession from our own, the physician has ceased in a great measure to use the scales, and it is therefore more difficult, no doubt, for the modern physician to apprehend the relations of liquids by weight.

If it is desirable for pharmaceutical reasons that the Pharmacopœia should abandon the use of measures for liquids, the medical profession will no doubt consent willingly to the change. They will be glad to contribute to pharmaceutical accuracy and efficiency. On the other hand, however, the physician should insist on writing his prescriptions with distinct reference to their clinical destination, which involves volumetric administration.

With regard to the metric system, it is to be hoped that physicians will not delay using it until they know the specific gravities of liquids. There is no more reason why the weights of liquids should be used in connection with the metric system than in the other, nor in fact as much reason, for in the metric system the expressions of weight and volume have definite relations to each other which can easily be borne in mind.

We have used the metric system in the State Almshouse for over a year with increasing satisfaction, and have been surprised at the quickness with which it can be learned. If a person remembers that a gramme is about fifteen grains, and writes his prescription so that the different parts shall be in proper *proportion*, the new system will be as familiar as the old in a very short time.

Some of our mathematical critics — and recently Dr. E. T. Williams — remind us of the superiority of the duodecimal system of numeration. This would imply new characters for the numbers “ten” and “eleven,” while the figure “10” would indicate twelve units, “100” would indicate one hundred and forty-four units, and so on. When this change in numbers is brought about there is no doubt that those who are at present the friends of the decimal system of weights and measures will as strongly favor the duodecimal, — if they are alive. It is because the system of numeration actually in use is decimal that a corresponding system of weights and measures is advocated.

## RECENT PROGRESS IN GYNÆCOLOGY.

BY W. H. BAKER, M. D.

*Removal of Fibrous Tumors from the Uterus by Traction.* — For the past three years Dr. T. Addis Emmet has reported cases of the above class to the medical societies of New York,<sup>1</sup> and has published other cases, with remarks upon the operations, in some of the leading medical journals.<sup>2</sup> Although it had been his custom for years to remove fibroids from the uterus after this manner, yet the rationale of this course of procedure seems only to have been clearly determined in his mind a little more than three years ago.

The patient having been prepared for the operation by incisions of the cervix, the administration of ergot, or other means, which should allow or force the tumor to present at the os externum, if possible, — the hæmorrhage being controlled during the time by styptic injections or the tampon, — he proceeds to draw down the lowest portion of the tumor with the double tenaculum or vulsellum forceps. Then, if possible, other forceps are applied higher up, more traction is made, and the portion cut off with a pair of blunt-pointed scissors curved on the flat side. Traction is again made on the remaining part of the tumor, and another portion cut away, which is repeated until the whole mass is removed.

The advantages claimed for this method of operating are : *First*, less danger from hæmorrhage ; for, as traction is made, uterine contraction is excited, which is kept up by the constant traction, so that the tumor may be removed, piece by piece, with almost no flow of blood. *Second*, less danger subsequently from septicæmia ; for, as the uterus keeps up a firm contraction, it assists materially in the enucleation of the tumor, forcing it to become more and more polypoidal in character, until at last there is left to divide but the small pedicle of the tumor, consisting of its capsule. There being but this very small denuded surface, the danger from septicæmia is reduced to a minimum.

Dr. Emmet has thus repeatedly been able successfully to remove tumors varying in size from three to eight and a half pounds ; and the great advantages of this method of operating have been twice experienced by myself. The only objection which it seems possible to raise against this operation is the increased danger of producing inversion of the uterus ; and we think, when compared with the greater advantages which it possesses, even this must be small. Granted that such an accident may occur, the readiness with which it may be reduced, if treated immediately, will help us to yield this point and give the above method a just trial.

<sup>1</sup> Obstetrical Society of New York, March 3, 1874. New York State Medical Society, 1876.

<sup>2</sup> New York Medical Journal, July, 1875. American Journal of Obstetrics, January, 1877.



*Methods of rendering the Female Urinary Bladder accessible, and probing the Ureter in Women.*—That the interior of the bladder has for a long time been accessible for exploration we are very well aware: not only by the opening of the vesico-vaginal septum, which has been so strongly enjoined by Dr. Emmet, particularly in treatment of cases of chronic cystitis, but also by the rapid dilatation of the urethra, which we had repeatedly seen practiced by Dr. J. Marion Sims, and which was years ago advocated by some of the best surgeons of Europe. But for the perfectness of this latter operation and for the additional means of diagnosis and treatment offered by the readiness with which it has been shown that the ureters may be probed through the dilated urethra, the profession is indebted to the late Professor Simon of Heidelberg. In the October number of the *New York Medical Journal* for 1875 we find a translation, by Dr. Bernays, of a clinical lecture by Professor Simon, in which are described very carefully the directions for accomplishing rapid and bloodless dilatation of the female urethra and for probing the ureters. The steps for the accomplishment of the dilatation of the urethra, as therein detailed, consist of three acts: *First, the slitting of the margin of the urethral orifice* (this being the narrowest and most unyielding part of the urethra), which is done by two lateral incisions in the upper margin of one fourth centimetre in depth, and one downward of one half centimetre in depth. By these incisions, considerable lacerations of this outer part of the urethra are avoided, and the finger is allowed to enter deeper into the bladder.

*Dilatation of the urethra with plugs forms the second act.* These dilators consist of seven plug-shaped specula of graduated sizes, each larger size being one millimetre greater in diameter than the one preceding it. They are made of hard rubber, and are really specula, cut off straight at the point, and shutting with convex plugs, thus forming round, smooth dilators. After the use of the largest, which is two centimetres, in diameter, the finger may readily enter the bladder. The amount of dilatation in the adult which it was found could be produced without danger of incontinence following was with plugs measuring 1.9 to 2 centimetres in diameter, or 6 to 6.3 centimetres in circumference; and, in case the disease justified a more daring course, the dilatation might be increased to 6.5 or even 7 centimetres, with the danger of producing some slight incontinence for a few weeks, which would then pass away. In girls, the dilatation should not be carried to the same extent by any means. But it was found that 4.7 to 6.3 centimetres in circumference were measures inside which it was necessary for the surgeon to keep, according to the individual case. These plugs have a great advantage over the finger, the forceps, or the many-branched dilators which have been much advised and used, since they give the force applied more equably, and there is less danger of tearing or bruising

the mucous membrane at the narrowest points, as under the pubic arch. In cases of dilatation of the urethra, within the above limits, no incontinence should follow. In exceptional cases, however, with uncommonly thick fingers and the palpation of the bladder repeated often and for a length of time, some incontinence might be expected to follow for twenty-four hours.

*The third act consists in passing the finger through the urethra into the bladder and examining its interior.* This is very much aided by using the forefinger for the examination, at the same time passing the middle finger into the vagina and, with the other hand above the pubes, pressing the fundus of the bladder down upon the exploring finger. The patient being anæsthetized, all the above-mentioned three acts may be accomplished in a very few moments. The indications for this means of dilating the urethra are: (1.) For the diagnosis of the diseases of the mucous membrane. (2.) For the diagnosis of foreign bodies and stones, which can be found when they are very small. (3.) For the extraction of such bodies. (4.) For the purpose of applying strong caustics in cases of inveterate catarrh of the bladder. (5.) For the cure of fissures of the urethra. (6.) For the diagnosis of defects in the vesico-vaginal septum when the vagina is closed. (7.) For the diagnosis of the seat and extent of growth of tumors in the vesico-vaginal septum. (8.) For the extirpation of tumors, especially of papillomas, starting from the mucous surface of the bladder. (9.) For the discovery and subsequent extraction or excision of renal calculi from the vesical part of the ureter. (10.) For the opening of hæmatometra, when puncture is impossible or too dangerous, between the bladder and the rectum; as, for instance, when there is a congenital deficiency of a part or the whole of the vagina. (11.) For the cure of colo-vesical or entero-vesical fistula, by cauterizing the ostium vesicoli of the fistula.

*The probing or catheterization of the ureter* may be accomplished as follows: The urethra having been dilated, the finger is passed through it, and about one inch beyond the neck of the bladder it finds the ligamentum interuretericum, which is more prominent on either side than in the centre. About one half to three quarters of an inch from the median line, on the surface of this ligament, are the orifices of the ureters, which are imperceptible to the touch; and it is, therefore, necessary that this point of the ligament should be fixed with the finger, and the probe or catheter passed upon it upward and outward in the direction of the ligament. By slightly pushing, we try to introduce the probe into the orifice of the ureter. If it does not enter, it will be arrested by the walls of the bladder; but if it does it can easily be pushed on in an upward and outward direction, and we feel the probe covered, for a few centimetres, by mucous membrane.



PROCEEDINGS OF THE CONNECTICUT RIVER VALLEY  
MEDICAL ASSOCIATION.

A. P. RICHARDSON, M. D., WALPOLE, N. H., CORRESPONDING SECRETARY.

OCTOBER 31, 1877. Twenty-five members were present. The vice-president, Dr. N. G. Brooks, Charlestown, N. H., in the chair. In conformity with the by-laws, requiring that an address shall be delivered by the vice-president at one of the regular meetings, Dr. Brooks read an interesting paper on Arsenic, showing the various forms in which the two arsenical pigments, Scheele's and Schweinfurth's green, are used, whereby there is unrecognized danger to the people. He pointed out wall-paper as the most prominent and by far the most common source of arsenical poisoning, and gave a few of the more simple methods of detecting the arsenic, with a reference to the general theories advanced as to its method of introduction into the system, closing with an account of some interesting cases under his own observation.

*Excision of Knee-Joint.* — Dr. Richardson, of Walpole, N. H., presented a girl fourteen years old, who was shot in the knee-joint one year ago, the gun being loaded with seventy-five shot, and accidentally discharged in the small room in which she was at work. Excision of the articular ends of the bones forming the joint was performed by Dr. Twitchell, of Keene, N. H., and the leg placed upon a straight splint for ten weeks, after which a starched bandage was applied. The union is perfect, and, with two inches shortening, there is a very useful leg.

Dr. Richardson read a paper on Sleep.

*Plants in Rooms.* — Dr. George Spafford, Windham, Vt., read a paper on House Plants, saying that as physicians are often asked as to their sanitary effects, it is important that we answer understandingly. The objections usually advanced are shutting out of sun and light from the windows, dampness in the air arising from earth in pots, but chiefly contamination of the air from exhalation of carbonic acid by vigorously growing foliage. But a room containing plants is more likely to have the windows open to the light than otherwise. The moisture of the water of the kettles, or reservoir, or stove is greater than from many pots of earth.

Professor Kedzie, of Michigan Agricultural College, has answered the third objection by an analysis of air from the college green-house, showing that, while the out-door air contains four parts of carbonic acid in ten thousand of air, the air taken from the green-house, holding more than six thousand plants, in the morning, before sunrise, when the room had been closed tight for twelve hours, contained an average of only 3.94 parts of carbonic acid in ten thousand of air. This deficiency of carbonic acid he attributes to its absorption by the plants by day, and consequent accumulation of oxygen, as an analysis, made by him during the daytime, at two o'clock P. M., indicated only an average of 1.39 parts of carbonic acid in ten thousand of air.

Peter Henderson, of New York, states that no more healthy class of men exists than green-house operators, though often compelled to remain by night in winter, and sometimes to sleep in closely shut green-houses. Professor Mantegazza, of Milan, has shown that the cultivation of common plants is

worth something more to us than the pleasure they give to the senses of sight and smell, since they evolve quantities of ozone, developed by the action of the sun's rays, and in some cases this continues to be evolved during the darkness. The narcissus, hyacinth, heliotrope, and mignonette are mentioned among the most valuable of the ozone makers, and we know that as a therapeutic agent ozone has been employed to some extent. Some German physiologists have maintained its efficiency in tuberculosis, asthma, rheumatism, gout, and sundry other diseases. So, besides the use house plants are to the invalid in directing his attention from his own maladies, we may even claim a health-giving influence from the plants themselves, and safely conclude that the number of plants usually kept in any dwelling-house would do no harm if kept in the bedroom.

*Cerebro-Spinal Meningitis.* — Dr. S. Nichols, Bellows Falls, Vt., presented a paper describing an epidemic which prevailed in his vicinity during the present autumn. All the cases presented some of the characteristic symptoms of spinal meningitis, and recovered after two or three weeks' sickness.

Dr. Allen, White River Junction, Vt., spoke of an epidemic of typhoid fever, which had occurred near his place of residence, but could not account for it. In this connection he made remarks upon the usefulness of large doses of quinia in reducing temperature.

An epidemic of jaundice was mentioned by Dr. Spafford, of Windham, Vt. The general health was reported as good in the district represented.

*A Quack Routed.* — An interesting feature of the meeting was the interference of the society with the business of a notorious quack, who had lately arrived at Bellows Falls, and was receiving fees of fifty dollars from many a hopeful patient. His advertisements flooded neighboring villages. When waited upon by an attorney, under the direction of the association, and informed that he was violating the statutes of Vermont against irregular practitioners of medicine, he asked the privilege "to rise and explain" before the association, which privilege was granted. There he expressed a desire to appear before a state censor for an examination. Accordingly, a censor present gave him a private examination, which a reporter immediately made public to the prosecuting body, much to their merriment. The committee appointed to prosecute had little to do, as the next train bore the impostor to other and more congenial fields for his nefarious work.

WALPOLE, N. H., November 16, 1877.

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## PROCEEDINGS OF THE STRAFFORD DISTRICT, N. H., MEDICAL SOCIETY.

J. R. HAM, M. D., SECRETARY.

THE Strafford District, N. H., Medical Society held its seventieth annual meeting at the American House, Dover, on Wednesday, December 12, 1877.

Twenty-three members were present, and the president, Dr. B. W. Sargent, was in the chair.

*Pistol-Ball Wound.* — Dr. W. H. Horr reported a case of pistol-ball wound



of the chest. The ball, which was .32 of an inch in diameter, entered between the fifth and sixth ribs, and three fourths of an inch outside of the right nipple. It was supposed that the ball was lodged in the lung. There was very free expectoration of blood, and on the next day there was a violent inflammation of the right lung and pleura. The pulse on the second day was 136, temperature 105° F., and respiration 44.

After ten days had passed, the back of the patient was carefully explored, and a hard substance, which afterwards proved to be the ball, was discovered just over the right kidney, and in close relations to the spinal column. The patient improved slowly, and not till four weeks had passed was he able to sit up for an hour or two.

At this time, four weeks after injury, Dr. Horr cut down upon the ball and removed it. It was lying under the lumbar fascia, and was considerably flattened. The patient and missile were exhibited to the society.

Dr. D. T. Parker read a paper on the Privileges and Responsibilities of the Physician.

*Medical Ethics.* — The president gave the annual address, choosing for his theme Medical Ethics.

He said that there was too often a lack of conformity to medical ethics on the part of regular practitioners, and this was, in a great measure, the cause of the charlatanism of the day. He pleaded for a more decided stand by this society against offenders in its ranks and against the irregular practitioners who are without.

*Recto-Vaginal Fistula.* — Dr. L. G. Hill reported a case of atresia of the anus, with a recto-vaginal fistula which had served as an artificial anus for years without the true nature of the difficulty having been suspected. The discovery was made by Dr. Hill, as he, in consultation, was making an examination for uterine disease.

The patient was a married lady and the mother of several children, and was found to have acquired some malposition of the uterus. The perinæum was very narrow, and the orifice of the anus was completely closed, leaving only a slight depression at its site. On introducing the finger into the vagina a circular opening was found in the posterior wall, through which the forefinger passed with ease into the rectum. The muscle surrounding the fistula seemed to have some slight sphincter power. The patient related that when she was a girl she was one day searching for eggs in her father's barn, and, while attempting to slide down from the haymow, slipped upon part of an ox-bow which was nailed to the side of a post, and which was used to hang a harness on. The free end of the ox-bow entered the vagina and held her fast until relieved by friends. The family physician said that there was no rupture, that she had sustained only a severe contusion, and treated her by placing an oiled tent in the vagina to prevent inflammatory adhesions. The physician in attendance, who had been often called during the last twenty years, mentioned to Dr. Hill the fact that he could never induce his patient to take cathartics, nor did she ever give him a satisfactory reason for her refusal to do so.

*Alcohol.* — Dr. T. J. W. Pray read a paper on the Therapeutic Uses of Alcohol.

The society adjourned at two o'clock for dinner, which was served at the American House.

After dinner the following officers were chosen for the ensuing year: President, B. W. Sargent, M. D.; secretary, J. R. Ham, M. D.; treasurer, Chas. A. Tufts, M. D.; auditor, M. C. Lathrop, M. D.; councilors, Wm. Waterhouse, M. D., Wm. H. Horr, M. D., Eli Edgecombe, M. D.; orators, Chas. E. Swasey, M. D., Chas. E. Blazo, M. D., Eli Edgecombe, M. D.; reporters, S. C. Whittier, M. D. (on gynæcology), Jas. H. Wheeler, M. D., John W. Parsons, M. D., Wm. H. Sylvester, M. D. (on topics of their own choice).

Dr. T. J. W. Pray was appointed to read a paper before the New Hampshire Medical Society at its annual meeting in June, 1878.

*Pistol-Ball Wound.* — Dr. Jere. F. Hall reported a case of recovery from wound by pistol ball in the abdomen, where there was extreme tympanites with severe typhoid symptoms. The patient was treated with brandy, opium, poultices, and turpentine enemata.

*Stimulants.* — Dr. John W. Parsons spoke of the value of stimulants in the treatment of disease, saying that they were *essential* in many cases. He also said that the types of diseases had not changed, as claimed, but that they seemed different only because there had been a change in the treatment.

Dr. Horr thought he met the old, sthenic type of disease now, but it was among those who lived simple lives in the rural districts. He met the modern, asthenic type in the city.

Drs. Lathrop, Wheeler, and Edgecombe took up Dr. Pray's paper on Alcohol, and discussed its use in typhoid fever.

*Voted*, to hold the semi-annual meeting at the hotel in Rochester, N. H., at such time as the president and secretary shall designate, and that the members residing in Rochester be a committee of arrangements for the meeting.



## MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA.

THE Medical Society of the District of Columbia assembled Thursday night, December 20th, at Marini's Hall, which was well filled. The occasion was to celebrate the sixtieth anniversary of the society. Dr. Toner, as chairman of the committee of arrangements, in announcing the programme for the evening made, in substance, the following remarks: The Medical Society of the District of Columbia was founded September 26, 1817, and this meeting, therefore, represents the sixtieth anniversary,—a period of time which represents two generations of human life. Our first charter was obtained from Congress in March, 1819. The district then embraced the original ten miles square, with the three cities, Washington, Georgetown, and Alexandria, the whole population being but little over thirty thousand. There were twenty-one physicians named in this charter, all of whom are now deceased, and they included nearly all the medical men then practicing in the territory named. I use the term our first charter, because we are now acting under a revised and amended act of incorporation granted July 7, 1838. In our present charter there are named twenty-two physicians, but the nearly forty years that have supervened



since that time have removed from earth all but seven of our honored and worthy representatives. The names of those living are Drs. J. B. Blake, Joseph Borrows, H. F. Condict, J. C. Hall, Benjamin King, Harvey Lindsly, and Noble Young. Of these, two — Drs. J. B. Blake and J. C. Hall — have been physicians for over fifty years; and Drs. Joseph Borrows, Harvey Lindsly, and Noble Young will have been physicians fifty years next March. All these physicians are as familiar to the citizens of Washington as household words, and have been particularly blessed with length of days and professional usefulness, beyond the average allotted to medical men in the United States, — the average life of physicians being but about fifty-eight years. The average years of professional life in America is thirty-two and one half years; and the average age at which physicians commence to practice is between twenty-five and twenty-six years. From the formation of our society in 1817 to the present there have been about four hundred and fifty names enrolled as licentiates of this society. Of these about one hundred and eighty survive, and are more or less actively engaged in practice. Without further prefatory remarks I proceed to the discharge of the agreeable duty assigned to me of presenting to you an old and highly esteemed member, who has consented to be the orator of the evening, — Dr. A. Y. P. Garnett.

Dr. Garnett opened his able and interesting address with a reference to the rapid progress of the science of medicine, due mainly to the organized efforts of the profession, particularly such associations as this. He gave a rapid glance at the history of medical practice and schools of medicine, ending with a highly interesting account of the straits to which the Confederate surgeons and physicians were reduced during the war by the enforcement of the Federal blockade, which partially deprived them of their supplies. The physicians, cut off from their accustomed vegetable drugs, substituted indigenous plants with great success. He complimented them for successfully battling with the emergency, and also complimented the surgeons for devising new methods of practice, made necessary by the blockade, particularly Professor Campbell for a valuable discovery which he described. He closed with a tribute to the present high character of the profession generally, and the improvements in the science of medicine due to them.

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### MITCHELL ON FAT AND BLOOD.<sup>1</sup>

THE object of Dr. Mitchell's interesting little work is to describe a mode of treatment which he has found to be very successful in a class of cases familiar to most practitioners, and often difficult to cure. The patients are chiefly women who have been subjected to some severe physical or mental strain, and frequently to both combined, — although a defective vitality, congenital or acquired, is probably often the underlying cause. "A young woman falls below the health standard, loses color and plumpness, is tired all the time, by and by has a tender spine, and sooner or later enacts the whole varied drama of hysteria. As one or other set of symptoms is prominent, she gets the appropriate

<sup>1</sup> *Fat and Blood, and How to make them.* By S. WEIR MITCHELL, M. D., etc. Philadelphia: J. B. Lippincott & Co. 1877. 12mo, pp. 101.

label, and sometimes she continues to exhibit only the single phase of nervous exhaustion or of spinal irritation. Far more often she runs the gauntlet of nerve doctors, gynæcologists, plaster jackets, braces, water treatment, and all the fantastic variety of other cures." The term "nervous exhaustion" is sometimes employed to describe this disease, which, however, in many patients seems to depend upon perversion of the digestive function, while in others the symptoms are largely mental or moral.

Whatever be the cause or the pathology of the disease, in view of the fact that a great majority of the patients are emaciated and comparatively bloodless, Dr. Mitchell believes that the secret of the cure lies chiefly in nourishment, and the method which he employs consists mainly of means calculated to increase the bodily weight and to improve the quality of the blood. These are accomplished by removing the patient from the unfavorable influences of home and sympathizing but unenlightened friends; by enforced rest in bed for a longer or shorter time; by massage and electricity to improve the circulation and muscular nutrition; and, lastly, by a carefully regulated diet. For the details of treatment on all these points we must refer the reader to the book itself, assuring him that he will find much valuable information in it.

Dr. Mitchell is sparing of the use of drugs in the treatment of nervous asthenia; many of his patients, indeed, had exhausted the pharmacopœia in vain before consulting him. Nevertheless, laxatives are sometimes required, and in not a few cases some preparation of iron (the subcarbonate is preferred) and small doses of strychnia seem to aid in the cure. The extract of malt is also frequently employed.

A sufficiently large number of cases is detailed, adding much to the interest and value of the book by illustrating practically the method pursued and the results of the treatment. While the favorable effects of the latter are evident, the author does not pretend that all his patients are cured; a very few were not even essentially benefited.

We object to the title of the book, as being somewhat sensational and also misleading. While improvement in nutrition is an important element in the plan to be followed, it is a means and not the end. Indeed, we are inclined to ascribe to it less curative virtue than to the moral effect of separation from home, combined with the faith and obedience which the patient will yield only to a firm and judicious practitioner; the man is as much as the method.

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### BURNETT ON THE EAR.<sup>1</sup>

THIS work was prepared, as the preface states, with the object of presenting the most recent advances in otology, and is divided into two parts, — the first treating of the anatomy and physiology, the second of the diseases and their treatment. In the first part the anatomy of the different portions of the ear, auricle, external meatus, membrana tympani, etc., is described concisely and

<sup>1</sup> *The Ear: Its Anatomy, Physiology, and Diseases.* A Practical Treatise for the Use of Medical Students and Practitioners. By CHARLES H. BURNETT, A. M., M. D., Aural Surgeon to the Presbyterian Hospital, Surgeon in charge of the Infirmary for Diseases of the Ear. Philadelphia: Henry C. Lea. 1877. Pp. 615.



clearly with the aid of numerous admirably executed wood-cuts, and the anatomy of each separate portion is followed immediately by a description of its physiology, in which are found the later results of acoustic physiology, many of them from recent German works, but some from the author's own experiments. In thus bringing together the anatomy and physiology, and particularly in the thorough description of the physiology, the work differs from most recent publications on the ear, and the author is quite right in thus directing early attention to these, the only true foundations for success in aural practice. The last chapter of the first part gives in some three pages "a scheme of relationship between the middle and internal ear," which shows in a very clear way the conducting apparatus of the ear and the connection between this and the nervous structures of the labyrinth; it might, in our opinion, have been carried just one step farther by explaining the course which a wave of sound takes, and the way it is changed from the time it enters the external meatus till it is perceived by the brain, — facts which are but too often beyond the knowledge of the student and average practitioner.

The second part begins with a description of instruments and their employment, followed by an account of the different characteristics of sound and hearing and the method of testing the ear. Then come in order the diseases and treatment of the separate anatomical divisions of the ear. Almost all the known diseases of the ear are described in a thorough manner, and the treatment advised is judicious. Space would fail us here to analyze the many good qualities of the book, the many new and interesting investigations which are for the first time here incorporated in a text-book, the familiarity of the author with the literature of his subject, and the judicious selection which he has made from it, both in regard to pathology and treatment.

In one or two respects, however, the author is guilty of omissions which we should hardly have expected in such a thorough work. By what must have been due to an oversight, we find no account of the appearance of the normal *membrana tympani* on inspection. Certainly a few pages on the characteristics of the *membrana tympani*, its position, polish, thickness, mobility, light reflex, etc., in fact on what one is to look for in the ear, would not have been out of place in such a book. So in regard to auscultation of the ear, a description of the sounds to be distinguished on inflation should have been given; and the chapter on examination of the ear seems to us to need careful revision, especially in the accounts of the simpler methods of examination. Among the diseases of the auricle, while *cornu cutaneum* and tubercular syphiloderma are described, nothing is said of what has been called burrowing abscess, which, although rare, on account of the serious deformity it causes should have been mentioned. In regard to foreign bodies in the ear, the author's advice to trust to the syringe rather than to picking and probing is undoubtedly wise, but there are cases in which the use of instruments is necessary, and the wire loop and the small hook might well have been added to the other methods of removal which are spoken of.

In pathology, we cannot but think that Wendt's description of desquamative inflammation in the auditory meatus, tympanum, and mastoid better explains the pathological process which takes place than the old name of cholesteatom-

atous tumors, which is here retained. Again, otitis media hæmorrhagica would better have been described as a rare variety of simple catarrhal inflammation than have been placed by itself among the unusual diseases. In speaking of the results of purulent inflammation of the tympanum, the careful autopsies and dissections which have been reported would have justified the author in using a more systematic arrangement of his fatal cases, and the different passages by which the inflammation may extend from the ear to the brain might be more carefully given. No mention is made of neuralgia of the tympanic plexus, although it is by no means unusual for the examination of the ear to cause the surgeon to order the removal of an offending molar tooth. Finally, in a number of instances there is too great a tendency to cite cases which, although of interest in a journal, are out of place in such a large and comprehensive work as this.

The book as a whole, however, we can most heartily commend as a very fair exponent of our otological knowledge and a safe and reliable guide in practice.

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### DIPHTHERIA.

DIPHTHERIA is thought to have been familiar to the ancient Greeks, Romans, and Egyptians; it probably prevailed more or less, under various names, during the first fifteen centuries of the Christian era. It is known to have been epidemic in Western Europe in the sixteenth, seventeenth, and eighteenth centuries. The severe and extended epidemic of 1818 in France was not felt so largely in other parts of Europe, and only very slightly in England and Scotland; it was the first carefully observed and recorded. Various epidemics occurred in the next forty years in France, but the disease has not of late been known as an epidemic in England until 1855, when its importation by an English family from one of the severely visited French towns gave it the name of *diphthérite*, afterwards diphtheria or Bologne fever, in recognition of its origin. Diphtheria, at that time, was clinically an unknown disease to most practicing physicians in England. The epidemic was investigated by the medical department of the privy council, and pronounced contagious, although it was thought by them that the disease also moved from place to place, independently of the direct mediation of persons or clothing, and apparently through the air. Diphtheria appeared also in this country a few years later, where it has been more or less prevalent ever since, reaching its height in this State in 1863 and 1864, and again still higher in 1875, 1876, and 1877; It was also epidemic here, to a certain extent, about a hundred years ago, and near the beginning of this century. The present epidemic has reached a considerable degree of severity in parts of France, Italy, Germany, Russia, and Austria; in the United States, San Francisco and New York, Vermont and Tennessee have suffered severely, showing the wide extent of its prevalence. Occasionally it has come suddenly and as suddenly disappeared; elsewhere, there have been several recurrent epidemics, and in towns where the sanitary condition is very bad it has become virtually endemic. In Great Britain diphtheria is, and has been for a few years, very mildly prevalent; the largest



number of deaths from that cause in any one week during the past year reached only twenty-one in the twenty-three towns, aggregating a population of over eight millions.

Opportunities to study the disease have, therefore, not been wanting, and the mass of literature on the subject shows that extensive observations have been made. It is now agreed that diphtheria is a general constitutional disease, whether primarily local or not. We have the high authority of Virchow that it is pathologically distinct from croup; and its clinical history in this State, at least, has been very different, although, in doubtful cases, the two diseases are often confounded. As to the bacteria-theory of its origin, we can only state that it is one of the three diseases in which bacteria have been found, which are apparently intimately associated with the pathological changes, although it is impossible to say what that relation is, whether causative or otherwise.

According to Reynolds's system of medicine, diphtheria is contagious and infectious, although the exact mode in which the contagion operates is unknown; but the contagion clings to particular places, houses, and even chambers. Tanner, Trousseau, and most of the later authorities state that its contagiousness is established; Aitken says that it seems to be infectious. Oertel describes it (in Ziemssen's *Cyclopædia*) as a miasmatic, contagious disease; he says, "It develops spontaneously, its origin being a miasm, and is induced by contact with objects and persons infected with diphtheria." Its period of incubation is usually placed between two and five days, — the extremes being one and fourteen. The experience of this State has established its contagious and infectious character without a doubt, but that there is another element, miasmatic, perhaps, in its nature, as was shown twenty years ago by the medical officers of the privy council in England. Diphtheria is not, however, contagious in the same sense that scarlet fever and measles, for instance, are so, for it does not prevail most in densely populated places, where the facilities for contagion are best. As the distance to which scarlet fever is transmissible is less than in the case of measles, so does it appear that nearer contact is necessary in propagating diphtheria than the other contagious diseases. Of course, as in all infectious maladies, only a portion of those exposed become ill.

The mortality from diphtheria is high. Oertel puts it, in severe epidemics, at thirty to forty per cent., English authorities from ten to thirty-three per cent.; Trousseau and Flint say it is enormous. In this State the death-rate from it has ranged from six to eighty per cent. of the cases attacked, and in some localized epidemics every person attacked has died. The fatality has been greatest in the small towns here, in England, and in France. In one small village near our State line, four per cent. of the population died of diphtheria in a few weeks; in France, one small district lost ten per cent. of its population in as short a time; and Trousseau reports an epidemic where, of sixty persons attacked, nearly every one died. On dry, sandy soil, with pure water, good drainage, proper ventilation, and sunny exposure, the mortality has not been excessive except in very young persons, and where the trachea has been invaded. In low and damp or high and damp places, especially in

narrow river-valleys running easterly and westerly, with shallow or clay soils, especially if overlying rock, and with polluted air and wells, the fatality has often been such as to remind us of the plagues of the last century. Overcrowding and want are very unfavorable elements in the prognosis. In the croupous and malignant forms the physician is fortunate when, by the earliest and most supporting treatment, he saves from death by asphyxia or blood poisoning a small per cent. of his patients. There are, unquestionably, mild types of the disease, analogous to the walking cases of typhoid fever; but it is safe to question the accuracy of diagnosis wherever an excessively low death-rate has been reported for a large number of cases.

The treatment by the physician should be supporting to the last degree; by the sanitarian the most rigid isolation. In Widerhofer's wards in Vienna diphtheria is treated with more care in these respects than small-pox. The most excellent results have followed such a course in this State,—where schools, indeed, have been closed,—especially when carried out by an intelligent board of health. The reported number of deaths from this scourge was two thousand six hundred and ten in our State for 1876, a mortality next to that from pulmonary consumption; and, although our registration is so inaccurate that these numbers cannot be entirely depended upon, especially in those cities and towns where it is the rule never to have physicians' certificates of the causes of death, yet this fearful mortality is sufficient to cause some alarm. It is probable, too, that diphtheria has been no less fatal in Massachusetts during the past year. The State Board of Health, a few months since, issued a circular of which more than two thousand copies have been distributed over the State, calling attention to the magnitude of the evil, advising rigid isolation in treatment, thorough disinfection, proper supervision of schools by competent persons, avoidance of exposure of children to the cold, attention to local sources of filth, and, above all, *to the appointment of efficient boards of health*. A few of their recommendations are given here:—

“In all cases of diphtheria, fully as great care should be taken in disinfecting the sick-room, after use, as in scarlet fever.

“After a death from diphtheria the clothing disused should be burned or exposed to nearly or quite a heat of boiling water; the body should be placed as early as practicable in the coffin, with disinfectants, and the coffin should be tightly closed.

“Children, at least, and better, adults also in most cases, should not attend a funeral from a house in which a death from diphtheria has occurred.

“It should be distinctly understood that no amount of artificial ‘disinfection’ can ever take the place of pure air, good water, and proper drainage, which cannot be gained without prompt and efficient *removal of all filth*, whether from slaughter-houses, etc., public buildings, crowded tenements, or private residences.”

The Boston Board of Health, to whose intelligent zeal the recent good health of our city is largely due, have just issued a circular requiring physicians, under Sections 47 and 48, Chapter 26, of the General Statutes, to report to them all cases of small-pox, scarlet fever, typhus fever, and diphtheria coming under their notice within the city. This step is evidently demanded in



the interest of the community, and prosecutions for violation of the ordinance, it is hoped, will not often be necessary. The school committee have already taken the proper steps for controlling the disease, so far as the pupils are concerned.

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### MEDICAL NOTES.

— We are happy to inform our readers that, owing to the admirable arrangements at the Riverside Press, the fire which occurred there on Monday night was promptly suppressed without loss or delay to any of the periodicals published by Messrs. H. O. Houghton & Co., though the injury to the property of the firm was considerable.

— In the last Report of the State Board of Health of California, an interesting epidemic of diphtheria is reported as having occurred during the month of April, 1876, in the Asylum for Orphans at Vallejo. During the period referred to, there were forty-three cases and ten deaths. The board state that "one of the business men of Vallejo was called to Santa Rosa, Sonoma County, to attend the funeral of some members of a family of relatives who had died from the scourge, diphtheria. On returning to Vallejo, he and some of his family were taken down with the disease, and were attended by members of a family residing near the Home for Orphans. The children of the last-mentioned family were attending the school of the Orphans' Home at the time they were taken sick. Two of the family died, and soon after some of the Home inmates were taken sick with the same disease." During the prevalence of the epidemic no sufficient precaution was taken to isolate the sick, nor was attention apparently given to the fact of the contagiousness of the disease. The board also give some interesting facts with regard to the transmission of diphtheria from point to point. A child just recovering from diphtheria went to visit a family at Dixon, wearing the same clothes as used during its illness. One of the children of this household was soon taken sick with the disease and died, there having been previously no diphtheria in the vicinity and no communication by the child with infected localities. Free intercourse with the sick was allowed, and the funeral of the deceased child was largely attended by other children, thereby causing an outbreak in the school near by, from which a large number of cases started. Not one person became ill who had not been exposed to direct contagion. The partial dependence of the disease upon general insanitary conditions is noted. In San Francisco, it was most prevalent in those parts of the city where the sewerage is bad, where the soil is damp, where overcrowding, filth, and bad ventilation coexist with the other conditions usually prevailing in places occupied by the class of people who are least willing or unable to live in a manner favorable to health.

— The State Board of Health held the fourth hearing in the case of petitioners of the Bradley Fertilizer Company at Weymouth, on the 3d inst., when the case was closed. It appeared that about twenty thousand tons of manure are made each year, chiefly from rock phosphate, fish from which the oil has been tried, and sulphuric acid. The most offensive processes were shown to be (1) unloading the partly putrid fish from the schooners, (2) dry-

ing them by heat, (3) mixing the various ingredients, which last produced a pungent, peculiarly disagreeable smell that was observed by one of the witnesses for the defense at a distance of over fifteen miles. The village of Hull, three miles and a half distant, suffered the most, as the nearer and larger towns of Hingham and Weymouth had been protected by having the windows of the establishment closed and the very offensive processes stopped when the wind was blowing towards them. Improved methods of conducting the business had been introduced from time to time, and it was shown that the nuisance has been enormously reduced in character and frequency, especially in the last eight years. Several hundred people are dependent upon these works for their daily bread; the trouble from the smell is not excessive during the winter, and the defendants agreed to introduce as rapidly as possible still better methods and machinery for avoiding offense. The decision of the board has not been made public.

— Thomas Annandale has been appointed to the chair of clinical surgery in the University of Edinburgh, *vice* Lister.

— The French have passed the following law: "Every person who may be condemned by the police twice for the crime of open drunkenness will be held incapable of voting, of elective eligibility, and of being named for the jury or any public office."

— It is said that a medical school will soon be opened in connection with the University of North Carolina, at Chapel Hill.

— In a letter to the *American Practitioner* we read as follows: In Ireland as in England, opinion is divided as to the merits of Lister's antiseptic surgery. Some of the surgeons use it, others do not. So far as I can ascertain, the majority do not. But the faculty is quite united in the opinion that ether is the safest of anæsthetics, though chloroform and bichloride of methylene are frequently employed. Spencer Wells often uses the latter, and, it is said, gives as a reason "that it is less poisonous to the heart than chloroform, and not so stimulating and tedious as ether."

— Dr. Bigelow reports in the *Practitioner* a case of tetanus, caused by a rusty nail in the foot, which was relieved in less than thirty minutes by introducing a drachm of chloral hydrate into the wound after it had been enlarged by incision.

— John Chiene — page 509, *Edinburgh Medical Journal* for December — proposes (1) a means of lessening the expense of the antiseptic dressing of wounds, and (2) shows how the surgeon may dress wounds without the constant aid of the spray producer.

— The *Cincinnati Clinic* reports an obstinate case of asthma which was entirely relieved by a two-grain pill of *grindelia robusta* three times daily. The medicine was thought to be the cause of a violent diarrhoea which came on at the end of three weeks.

— At the clinic in Leipzig Professor Wagner has taken the place of Wunderlich, the eminent pathologist and clinician, who died in September last. He was called to Leipzig in 1850, to fill the vacancy created when Oppolzer went to Vienna. To his studies on the fever process and bodily heat was due the universal introduction of the body thermometer. Nearly eight hundred



medical students attend the Leipzig courses, — the largest number at any one school in Germany.

— Freyer (*Medical Record*, September, 1877) has modified the Sims speculum with especial reference to examinations of the rectum, by constructing it of wire one eighth inch thick. The usefulness of this skeleton speculum is at once apparent.

— In *La France médicale* for December 15, 1877, will be found Roger's eulogy upon his colleague and friend of many years, Professor Barth, especially well known as a writer on auscultation and percussion, recently deceased at the age of seventy-two.

— Two new scientific institutes have been opened in Germany. One, in Strasburg, offers facilities for the study of pathological anatomy, clinical and non-clinical autopsies, microscopical vivisection, chemical operations, dissection and surgical operations. The second is the Physiological Institute, in Berlin, which, under Du Bois-Reymond, is provided with all the best appliances and means for physiological inquiry.

— The best local anæsthetic for dental operations is said to be the extract of eucalyptus. Apply one drop on cotton to the sensitive dentine just before excavating.

— The ordinary consumption of opium in this country is about 300,000 lbs. per annum.

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#### HARTFORD HOSPITAL.

*Sulphate of Cinchonidia.* — The therapeutic value of the sulphate of cinchonidia has been pretty thoroughly tested in the wards of the hospital for the last seven or eight months, during which it has been almost invariably substituted for quinine wherever the latter would have been indicated. The results have been very satisfactory, and its use is still continued. It is employed as a general tonic, an antiperiodic, and is on trial as an antipyretic in typhoid. As a general tonic it has apparently been as effectual as quinine, its power in controlling malarial affections has been unquestionable, and it has seemed to possess very decided antipyretic properties, but has been used in too few cases, perhaps, to prove its power. The plan of administration has been to give one full dose once in twenty-four hours when some decided effect was desired, as breaking up the chills in intermittent or reducing the temperature in typhoid; otherwise it has been given in doses of from two to five grains three times a day.

Twenty-six well-marked cases of intermittent and three of remittent fever have been treated with cinchonidia. Of these, twenty-five were males, four females, thirteen of the quotidian and thirteen of the tertian type, one of the former complicated by enlarged spleen. A brisk cathartic was taken the night succeeding a chill, and fifteen grains of cinchonidia the next morning four to five hours before the chill was expected, and repeated for three days, then the small dose for several days; in the tertian the full dose was given, so as to anticipate the chill four to five hours, and the small dose on the other days, from three to four full doses being given. In seventeen cases no chill occurred

after the first dose, eight had one chill, and one case (tertian), where the cathartic was omitted, lasted a week. Average time of remaining in the hospital, eight days.

Cinchonidia has been quite largely used here in private practice, with generally good results. Those who have tried it to any extent in malarial diseases almost invariably rank it as equal to quinine in these affections; several report but two chills at most after commencing the cinchonidia, which was used as before described, one large dose a day. The reports are not as favorable where from two to five grains were given three times a day, though not less so than when quinine was used. Many use it almost to the exclusion of quinine, commending it highly in typhoid fever, neuralgia, and as a general tonic, causing less headache and cerebral congestion, easily borne when quinine cannot be tolerated, and especially favorable in its action upon children. As in all cases where remedies are concerned, opinions are not uniform, but I have not learned of any one discarding it after a fair trial.

The antipyretic action of cinchonidia has been tested in five cases of typhoid fever, and the observations for a characteristic period in three cases are given; but few cases have been admitted this fall and winter, so that the trial has necessarily not been extensive. The results have been very satisfactory. The cinchonidia was given at ten A. M., a supporting and stimulating diet being the only other treatment, except for special complications. The cases had all well-marked typhoid characteristics.

CASE I. Female, twenty, temperate.

Cinchonidia.	Seven A. M.		Twelve M.		Seven P. M.	
	Temperature.	Pulse.	Temperature.	Pulse.	Temperature.	Pulse.
	101°	99	103°	104	104°	110
Grains 15	103°	110	102°	108	102°	106
	101.8°	110	102°	112	104°	115
Grains 20	102°	110	103°	112	101.8°	110
	100.8°	108	101°	106	104°	112
Grains 20	101°	104	102°	104	103°	108
Grains 15	101.6°	102	101.4°	102	103°	106
Grains 15	101°	100	102°	100	101°	100

The observations commenced about the tenth day, and defervescence was fairly established the nineteenth.

CASE II. Male, thirty-two, temperate. Commencing the tenth day.

Cinchonidia.	Seven A. M.		Twelve M.		Seven P. M.	
	Temperature.	Pulse.	Temperature.	Pulse.	Temperature.	Pulse.
	101.5°	100	103°	110	102°	108
Grains 20	103°	110	103.25°	112	102.25°	108
Grains 20	101°	108	103°	116	102°	102
Grains 20	101.5°	100	101°	110	102°	116
Grains 20	101.25°	110	103.5°	110	103.75°	100
Grains 20	102°	100	104°	106	102°	100
Grains 20	102°	104	102.75°	104	103°	100
Grains 20	102°	100	102°	106	103°	100
Grains 25	101.25°	100	102°	104	101°	102
Grains 20	102°	106	103°	112	102.25°	106
Grains 20	100.25°	106	101°	106	102°	104
	99°	100	100°	102	101°	104



From this point defervescence commenced. The modifying effects of the cinchonidia are marked in reducing the evening temperature, while too short a time is afforded between its administration and the observation at noon to check the tendency manifested pretty uniformly, while the morning temperature does not exceed  $102^{\circ}$  after commencing the cinchonidia; after the twenty-five-grain dose the evening temperature scarcely exceeds  $102^{\circ}$ , and a marked reduction is manifested the same evening.

CASE III. Female, forty-five, intemperate; admitted about the tenth day, with vomiting and profuse diarrhœa.

Cinchonidia.	Seven A. M.		Twelve M.		Seven P. M.	
	Temperature.	Pulse.	Temperature.	Pulse.	Temperature.	Pulse.
	$99.2^{\circ}$	98	$102^{\circ}$	102	$103^{\circ}$	100
	$101^{\circ}$	99	$102^{\circ}$	94	$104^{\circ}$	96
Grains 20	$103^{\circ}$	80	$102^{\circ}$	98	$101^{\circ}$	86
	$101^{\circ}$	75	$101^{\circ}$	80	$104^{\circ}$	88
	$102.6^{\circ}$	90	$101^{\circ}$	80	$104^{\circ}$	92
Grains 20	$101^{\circ}$	84	$101^{\circ}$	74	$102.8^{\circ}$	82
Grains 20	$102^{\circ}$	89	$102.8^{\circ}$	88	$102.8^{\circ}$	82
Grains 20	$103^{\circ}$	89	$102^{\circ}$	80	$103^{\circ}$	86
Grains 15	$101^{\circ}$	89	$101^{\circ}$	80	$103^{\circ}$	86
Grains 25	$102.8^{\circ}$	80	$102^{\circ}$	86	$102^{\circ}$	98
Grains 20	$102^{\circ}$	80	$104^{\circ}$	99	$102^{\circ}$	80
Grains 15	$101^{\circ}$	84	$104^{\circ}$	100	$102^{\circ}$	92
Grains 20	$102^{\circ}$	88	$102^{\circ}$	90	$102^{\circ}$	80
Grains 20	$103^{\circ}$	102	$104^{\circ}$	92	$102.8^{\circ}$	94
Grains 25	$103^{\circ}$	98	$104^{\circ}$	103	$102^{\circ}$	100
	$104^{\circ}$	109	$104^{\circ}$	104	$104.8^{\circ}$	110
	$104^{\circ}$	110	$104^{\circ}$	110	$104.8^{\circ}$	115
Grains 20	$103^{\circ}$	112	$104.6^{\circ}$	112	$103^{\circ}$	100
Grains 20	$102^{\circ}$	100	$103^{\circ}$	115	$103^{\circ}$	100

After taking the first twenty-five-grain dose vomiting ensued, followed by a chill at midnight. The temperature is doubtless somewhat modified by the condition induced by intemperate habits, but shows a strong tendency to rise. After the second twenty-five-grain dose the cinchonidia was omitted one day; the temperature rose rapidly, the pulse became quick, and the respiration was 40, with marked delirium. The twenty grains were not taken the next morning until about noon, so that the effect is not so apparent until the commencement of the next day. These temperature ranges show a very marked influence exerted by the cinchonidia, the only exception to a purely antipyretic action being the possibility that a malarial element complicating the cases might place them under the head of typho-malarial fever, although the absence of any marked periodicity or chills would militate against any such hypothesis.

*Salicylic Acid.*—Salicylic acid has not been very much used, and not at all except in acute articular rheumatism, where it has yielded very marked results in a few cases. In one case the patient was brought in on a stretcher, unable to move a muscle, with the joints much swollen, and suffering most acute pain. The temperature was  $103\frac{1}{2}^{\circ}$ . He was given twenty grains each of salicylic acid and bicarbonate of soda every two hours. The pain was relieved in a few hours. The next day he was able to turn over in bed, the second to walk, and was discharged, well enough to go home, on the fourth day; the acid was continued two days.

In two other cases the pain was soon relieved, but convalescence was not so soon established. In all instances the acid was given with equal quantities of bicarbonate of soda. Unless relief from pain and acute symptoms is soon effected the acid is not continued, and the same applies generally to its use in private practice here. No very marked ill effects have been observed, except from continued use; in solution it is apt to be irritating to the throat. It is not very extensively used in the city, — mainly in acute rheumatism. A few patients report relief from pain and good results in the subacute form where the alkaline treatment had been used with no effect.

*Salicine.* — Salicine has been tried in still fewer cases, but with excellent results. In two cases, from five-grain doses every hour, complete relief from the agonizing pain and comparative freedom of motion ensued in twenty-four hours, and the cases progressed rapidly, with alkalies and less frequent doses of the salicine, to complete recovery.

*Fracture of Vertebrae.* — There are now in the hospital two cases of fracture of the vertebrae, — one recent, the other nine months old.

The subject in the latter case, J. M., thirty-five, laborer, married, temperate, was doubled up between two railroad cars while shackling them. The ninth and tenth dorsal vertebrae were injured, and at the time there was a deep depression between them. When admitted he had a bed-sore over the sacrum, six inches in diameter. There was entire loss of sensation and motion below the seat of injury; urine and feces passed involuntarily. He was placed upon a water-bed, and the bed-sore soon healed; his appetite and digestion are good, and he appears to be in perfect health and is very cheerful.

The other case of fractured vertebrae happened rather singularly. A man in stepping from one roof to another fell and struck upon his feet, fracturing the twelfth dorsal vertebra and probably the eleventh. He has complete paraplegia below the seat of the injury. There is slight sensation, urine is drawn by a catheter, and feces are passed involuntarily.

*Water-Bed.* — The water-bed in use here consists of a zinc tank of the dimensions of the ordinary single hospital bed, a foot deep, on a cast-iron frame. A piece of rubber sheeting is stretched across and held in place by cleats running round the outside of the tank, so loosely that when the tank is empty it reaches to the bottom. A faucet is provided to draw off the water, and a tube for filling. The patient floats upon the surface, can be easily moved, and is more comfortable than in any other arrangement yet tried. The sheeting is easily cleaned, and a new piece can be readily adjusted. The total cost is about forty-five dollars. A tank of wood might be very cheaply made for temporary use.

*Plaster-of-Paris Bandages.* — The plaster-of-Paris jacket has been applied in several cases of Pott's disease, and the house surgeon, Dr. M. M. Johnson, has hit upon an excellent device in adjustment which has not been mentioned in any of the descriptions I have seen. When the plaster is applied, several folded towels are placed over the chest, with the ends extending above and below the jacket. As the plaster sets, if it becomes too tight, as is very often the case, one or more of these can be very easily drawn out, thus obviating the necessity of putting on a new jacket.



In compound fractures, and in treating fractures generally, the plaster bandages are used, the plaster rubbed into the roller, and just before use the roll thrown into salted water long enough to be wet through. In compound fractures the edges of the fenestræ are packed with small pieces of sponge, which prevent the infiltration of the discharges under the bandage and the edges from becoming saturated and offensive. The sponge is prepared by bleaching an ordinary cheap sponge, and has been used by Dr. Johnson with complete success in controlling the often profuse discharges in compound fractures when a fixed dressing is used.

C. W. C.

HARTFORD, December 15, 1877.

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### A PROBABLE ERROR.

MESSRS. EDITORS, — It is quite possible that an apparent error I noticed in my first reading of Darwin's *Descent of Man* may have been pointed out long ago, but it can do no harm to call attention to it. The passage in which it occurs is the following : —

“In the *Quadrumanæ*, and some other orders of mammals especially in the *Carnivora*, there is a passage near the lower end of the humerus, called the supra-condyloid foramen, through which the great nerve of the fore-limb passes, and often the great artery. [<sup>1</sup>] Now, in the humerus of man, as Dr. Struthers and others have shown, there is generally a trace of this passage, and it is sometimes fairly well developed, being formed by a depending hook-like process of bone, completed by a band of ligament. When present the great nerve invariably passes through it, and this clearly indicates that it is the homologue and rudiment of the supra-condyloid foramen of the lower animals. Professor Turner estimates, as he informs me, that it occurs in about one per cent. of recent skeletons [nearly two per cent. as given in his *Introduction to Human Anatomy*, Edinburgh, 1877], but during ancient times it appears to have been much more common. Mr. Busk has collected the following evidence on this head: Professor Broca ‘noticed the perforation in four and a half per cent. of the arm-bones collected in the *Cimetière du Sud* at Paris; and in the Grotto of Orrony, the contents of which are referred to the bronze period, as many as eight humeri out of thirty-two were perforated; but this extraordinary proportion, he thinks, might be due to the cavern having been a sort of family vault.’ Again, M. Dupont found thirty per cent. of perforated bones in the caves of the Valley of the Lesse, belonging to the reindeer period; while M. Leguay, in a sort of *dolmen* at Argenteuil, observed twenty-five per cent. to be perforated; and M. Pruner-Bey found twenty-six per cent. in the same condition in bones from Vauréal. Nor should it be left unnoticed that M. Pruner-Bey states that this condition is common in *Guanche* skeletons.”

The “Grotto of Orrony,” mentioned above, it may be reasonably conjectured, is the same as the “Sepulchral Cave of Orrouy” described by Professor Broca, as mentioned by Mr. Boyd Dawkins in his very interesting work, “*Cave-Hunting*.” In the description as given in the latter it is said, “In eight out of thirty-four humeri the *fossa of the olecranon* was perforated.”

[<sup>1</sup> Both, in the humerus of a cat in the Warren Museum. - H.]

I think it will be evident at once to any anatomist that Mr. Darwin has confounded the *supra-condyloid* foramen with what may properly enough be called the *inter-condyloid* foramen — the perforation through the olecranon fossa. In M. Broca's cases, if Orrony and Orrouy refer to the same cavern, the mistake is obvious, and it is hardly less apparent in the others. For in the first place, the "hook-like process" is not a foramen or a passage at all after the ligament which made it one has disappeared, as it must have done in all very old bones. In the second place, while the *supra-condyloid hooked process* is rare, the *inter-condyloid perforation* is far from uncommon, especially in certain races, as in our North American Indians, and, as it is said, in the Negro.

There are three specimens of the supra-condyloid process in the Warren Museum, and seven or more of the inter-condyloid perforation. There may be instances in which, in the human skeleton, the ossification of the ligament referred to in Mr. Turner's description renders the foramen permanent after the decay of the soft parts, but I have never seen one, nor do I find any such case recorded in the works which I have consulted.

O. W. H.

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#### A FEW REMARKS ON THE DATE IN OBITUARY NOTICES.

MR. EDITOR, — There are one or two little practical points in composing an obituary notice to which the great majority of those who write worthy epistles in this line do not seem to give due importance. It is quite essential that we should know certainly the date at which the man figured in this life. The papers or magazines in which the death is recorded do not perpetually represent the present, — the *present* is ever becoming the *past*, — but the majority of those who write such notices too often ignore this important fact. If they say that the subject of the notice "died yesterday," or was "buried on the 25th inst.," that is all they seem to regard as important as to date, and then oftentimes they do not even date their own publication. Sometimes the date of death is given, and somewhere in the article the age of the person, directly or indirectly, — perhaps the age at a certain period: he was so many years old when he entered college, and he entered college at a certain time, etc., so that by considerable trouble of scanning the whole article and making various calculations, one engaged in taking note of these things for the public good can venture to make an approximate assertion that the existence of the individual thus honored with an obituary is represented in this life as being between two fixed dates. It may be asked. Why be particular about the date? We may ask, Why publish an obituary notice at all? If a thing of this kind is worth doing, it certainly is worth doing in the most complete manner possible, and it surely cannot be a very difficult thing for one who is well enough acquainted with his fellow-man to write his obituary notice to add in a conspicuous manner the date of birth and death. There are often many things to prove which hang on the mere date at which a man figures on this earth. If he be a doctor, we desire to know at what time he may have offered some contribution to science or the healing art. In making an index of these things for the use of the coming ages we should always place the individual as to date, but it is



not always possible to do this; not even half the time can we be as satisfactory in this particular as we should like, and we are often obliged to look through the whole of a long article and do considerable figuring simply to put before the world in plain black and white these important dates.

Once in a while we come across a practical person who, in connection with writing such a notice, makes it a point to state at the very beginning of the article the date of birth and death. This is as it should be, and is a copy which we wish that all who would record the life and works of their friends would follow.

It is a small matter with the writer at the time, but if he neglects it it becomes difficult and sometimes impossible from presented data to complete dates that may be highly desirable to have readily at hand. PHILLO.

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COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING DECEMBER 29, 1877

	Estimated Population, July 1, 1877.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1876.
New York	1,077,228	474	22.88	27.46
Philadelphia	850,856	315	19.25	22.88
Brooklyn	527,830	208	20.49	24.31
Chicago	420,000	129	15.95	20.41
Boston	363,940	45	20.72	23.39
Providence	103,000	37	18.68	18.34
Worcester	52,977	19	18.65	22.00
Lowell	53,678	18	17.44	22.21
Cambridge	51,572	10	10.08	20.54
Fall River	50,372	23	23.74	22.04
Lynn	34,524	14	21.08	21.37
Springfield	32,976	8	12.62	19.69
Salem	26,739	11	21.39	23.57

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OBITUARY. — Died, at Fitchburg, November 15, 1877, of capillary bronchitis, Dr. Alfred Miller.

At a meeting of the Fitchburg Society for Medical Improvement, held November 27, 1877, the following resolutions were adopted: —

*Whereas*, God in his providence has taken to himself one of our number.

*Resolved*, That while we mourn our loss, we bow submissively to the will of Him who doeth all things well.

*Resolved*, That in the death of Dr. Alfred Miller this society has lost an honored and beloved member, the profession an able and efficient laborer, the community a judicious, philanthropic citizen, the cause of education an energetic friend.

*Resolved*, That we tender our sympathy to the deeply afflicted family of our departed brother, and pray that our Heavenly Father may sustain and comfort them in their hour of sorrow.

OBITUARY. — Feeling that simple justice to the memory of the late Dr. Pratt, one of the most skillful physicians ever enrolled member of the Berkshire District Medical Society, demands a more extensive mention, will you allow space in your pages for this short article? Having graduated with the highest honors of his medical college, after a brief practice in one of the small towns of Berkshire County Dr. Pratt removed to Ravenna, Ohio, and soon obtained an excellent practice, and won an extensive reputation as a physician of remarkable ability, and also a most skillful surgeon. In the latter department especially he achieved more than a mere local reputation, and his services were often demanded at a distance of from sixty to a hundred miles. Finding that the climate of Ravenna did not agree with him, in June, 1858, he returned to his native town, Lanesboro', Mass. When he regained his health he resumed the practice of medicine, and soon rose to the very front rank in his profession in Western Massachusetts, which position he most ably filled until his death, last November. He visited in his daily ride patients in Lanesboro', New Ashford, Hancock, Stephentown, South Williamstown, Cheshire, Windsor, Pontoosic, and Pittsfield, and was often called in consultation far greater distances. He was a man of strong intellectual faculties and wonderfully retentive memory, and kept fully posted in all the discoveries in medicine and practice. He examined his patients critically and carefully, and his diagnosis of disease was unusually accurate. His constant, watchful attention was bestowed upon all, the rich and poor alike. No temptation to pleasure or to take the rest he sometimes so sorely needed (for his ride, embracing as it did some of the roughest portions of our mountainous Berkshire, was of necessity exhaustive) ever caused him for one day to desert his post by the bedside of the sick and suffering. Beneath what seemed to strangers a stern exterior was a heart as keenly alive to suffering and as tender in its sympathy as a woman's. Gifted with a strong intellect, polished and strengthened by a large range of reading and observation, and with remarkable conversational powers, he was always welcome.

He was a gentleman by nature and culture, — in the unswerving loyalty of his friendship, in his love of justice and all that was pure and noble, in his devotion to his family, and in his unsullied private character. Never was truer remark uttered than that by President Chadbourne in his funeral discourse: "This generation will never see his place filled." Dr. Pratt was a firm believer in the realities of the religion of Christ, although beset with doubts and fears, and seemingly unable to claim the promises for himself. In many households his place will remain forever vacant, and with sorrowful reverence will he be

"Named softly as the household name  
Of one whom God hath taken."

CHESHIRE.

P.

ERRATUM. — On page 15 of the last number, in the remarks of Dr. Curtis, "delirium tremens" should read "sleep."

BOOKS AND PAMPHLETS RECEIVED. — Dr. Edward Hammond Clarke. *The Man and the Physician.* A Sermon preached in the West Church, Boston, by C. A. Bartol. Boston: A. Williams & Co.

*Spinal Irritation in Children as related to True and False Arthropathies.* By V. P. Gibney, M. D. New York: G. P. Putnam's Sons. (Reprinted from the Transactions of the American Neurological Association.)

*The Elements of Therapeutics. A Clinical Guide to the Action of Medicines.* By Dr. C. Binz. Translated from the Fifth German Edition by Edward I. Sparks, M. A., M. B. Oxon. New York: William Wood & Co. 1878. (A. Williams & Co.)

Twenty-Second Annual Report of the Trustees of the State Lunatic Hospital at Northampton for the Year ending September 30, 1877.



# THE BOSTON MEDICAL AND SURGICAL JOURNAL.

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## LECTURES.

CLINIC OF PROFESSOR FRANK H. HAMILTON: BELLEVUE HOSPITAL,  
NEW YORK.

*Dislocation of the Humerus, with Obscure Fracture about the Shoulder-Joint.* — GENTLEMEN: The patient whom I now present to you, a man in advanced life, has occasioned no little interest and discussion among the surgeons of this hospital. The accident from the effects of which he is still suffering occurred nearly six weeks ago, and he was admitted to the house soon after it, but some little time before my term of service began. At the time of and soon after his admission, crepitus somewhere about the right shoulder-joint, the part injured by the fall which the patient had received, was distinctly recognized by a number of the house staff, who naturally become very skillful in such matters, and who would not be likely to mistake a little grating in a joint for crepitus. The latter is produced by fractures, and by fractures only; and the fact of there having been crepitus in the present instance was afterwards confirmed by Dr. Erskine Mason, one of our most distinguished surgeons. When the patient came under my charge I had no difficulty in making out a dislocation of the arm downwards, but it was too late to detect any crepitus about the joint. It is manifestly impossible for me to doubt the testimony of there having been at one time distinct crepitus, and, therefore, some sort of a fracture in this case; but at present, at all events, it is no easy matter to find out precisely where the fracture was situated. I should regard it as altogether improbable that there was any fracture of the ribs, on account of their remoteness from the seat of injury, and I cannot find any evidence of its having been located in the shaft of the humerus. Neither can I believe that the fracture occurred about the neck or head of the latter; and I am therefore driven, by a process of exclusion, to the opinion that it was probably near the lower edge of the glenoid cavity. This, you will understand, is only a conjecture on my part, but, under the circumstances, it is the nearest approach to a diagnosis that I am able to make. The patient has now been under my observation for three weeks, and during that time no new light has been thrown on the subject.

The attempt to reduce old luxations of the humerus is, as you are aware, fraught with no little danger on account of the great liability to rupture the axillary artery or vein in doing so, and a number of cases are on record in which death from hæmorrhage followed in a few minutes after the accident. The reason of this is that when any time has elapsed after a dislocation, the parts become more or less firmly united by adhesions, and any force that is necessary to break them up may also be sufficient to cause a rupture of the vessels. If this is the case in uncomplicated luxations, how greatly must the danger be enhanced when there is a fracture also present, on account of the roughened surfaces and perhaps even splinters of bone which may have been left by it. I have neglected to mention previously that in the present case a piece of bone, uneven in outline, can be distinctly felt in the immediate vicinity of the axillary artery, and on this account, if on no other, I should deem the risk entirely too great here to attempt to make any reduction of the dislocation. On making a careful measurement of both arms, from the acromion process of the scapula to the olecranon process of the ulna, I find that the distance is thirteen and a half inches in the well one and fourteen inches in the affected limb; and this lengthening is one strong evidence of there having been a luxation of the humerus. Prof. Stephen Smith, who is present with us to-day, unites with me in the diagnosis of dislocation and some obscure fracture, and agrees with me in the opinion (in which, I am sure, all other good surgeons would also coincide) that it would be entirely unsafe, for the reasons which I have just given, to operate here. But, "What," you say, "can nothing be done for this poor man?" An English surgeon, whom I do not care to name, had not a great while since a case very similar to this, and he undertook to make a resection of the joint; but, unfortunately for the success of the operation, the patient died on the table. While the joint is in a healthy state it is quite an easy matter to resect it, and even after an uncomplicated luxation has existed for some time the operation may be comparatively free from difficulty; but when there is an old luxation accompanied by a fracture, as in this instance, the difficulties and dangers of such an attempt are increased to an enormous extent. Under the circumstances, therefore, there is no course left us but to let our patient alone and tell him to try and make himself as comfortable as possible. It is, at all events, consolatory to know that he suffers less pain now than he did a short time ago.

*Valgus of both Great Toes; Exsection.* — The condition which you here see in this young man is not an infrequent one, but it is very rare to see so marked a case as this. Both the great toes are bent far around in an outward direction, and lie upon the plantar surface of the foot directly under the other toes; so you can readily imagine the inconvenience and suffering that the patient is thus occasioned. The affection is produced in various ways, and here it seems to have been



dependent upon a neuralgic condition, which produced at first spasm and then contractions of the muscles. You will see more cases of valgus (usually accompanied by bunions) in Charity Hospital than anywhere else, among the poor girls who have been accustomed to squeezing their large feet into their mistresses' cast-off shoes, which are much too small for them. Some four years ago, upon a patient in St. Francis's Hospital, I made a resection of the joint in both feet for this affliction, and I believe it was the first operation of the kind that had been performed for the deformity. Though the man had been really a very great cripple previously, the operation was completely successful, and soon afterwards he was able to walk all the way out to Harlem, and back again, without any inconvenience.

Hueter in Germany and Hilton in England first performed exsection of this joint about the same time, and they have employed it a great deal, but always in cases where there was caries of the bones entering into the articulation. The only originality, therefore, that I can claim in reference to the operation is the enlargement of its scope by its employment for the relief of the deformity spoken of. After the exsection is made I do not force the toe into position, but allow it to be gradually drawn around into place by the ligaments which are left undisturbed. It is shorter by as much as the space occupied by the bone removed, and in consequence of the operation upon the joint has sufficient freedom of motion. After the operation the warm-water dressing is kept constantly applied until the danger of acute inflammation of the parts is past, and this has a marked tendency to prevent the troublesome abscesses of the plantar surface of the foot which are otherwise so liable to occur in these cases. The patient being now etherized, I commence the operation in the present instance, and I do not use the Esmarch bandage here, partly because it might be necessary to keep it on for so long a time, and partly because the amount of blood lost will not be very large. Mr. Hilton has been accustomed to make a flap over the joint, and I purpose here to follow his example, though I have usually made a straight incision. A flap of the size which I have now made, however, is not very liable to slough. Dr. Rose, of St. Francis's Hospital, who has performed the operation several times, prefers to resect the bone before going into the joint, but I think it is better to open the joint first. Now, having done this, I am enabled to get a chain-saw under the phalanx, but as I never saw but one good chain-saw in my life and that was stolen from me, it does not answer very well, and I have to resort to a narrow, straight saw. In a chain-saw the tooth-surface ought always to be wider than the back, and this is scarcely ever the case. By means of the saw I have removed a considerable piece of the phalanx, and you see that we are able to put the toe in very good position, the cut surface of the bone being quite smooth and even. (In the same manner the exsection of the joint was made in the other foot.)

RHINENCEPHALUS AND SOME ALLIED FORMS OF MONSTROSITY.<sup>1</sup>

BY J. B. S. JACKSON, M. D.

At a recent meeting of the society, Dr. William W. Wellington, of Cambridgeport, exhibited a human fœtus, born at seven and a half months, and a typical specimen of the form of monstrosity that is known as the Rhinencephalus or Cyclops. A cast in plaster was taken for the Warren (Medical College) Museum, and on the following day the dissection was made. The weight of the fœtus was three and a half pounds (avoirdupois), and the length fifteen and a half inches. Sex female; as St. Hilaire, whom I shall often quote in regard to various points, states<sup>2</sup> that it usually is in the Cyclops. He says, also, that in the human subject, but not in the lower animals, there are usually six digits upon one if not all four of the extremities. The present case, however, was an exception to this last rule, and the subject was well formed externally and internally, excepting the parts that will be described. The eye appeared to be single. The proboscis, for it can hardly be called a nose, though that would be its proper name, was three fourths of an inch in length, and, with its terminal orifice, most strikingly suggested the idea of a penis, for which organ some of the old anatomists mistook it in these cases. It was about as large as the penis of a new-born child, was directed upwards, was lined by a well-marked mucous membrane, and ended in a cul-de-sac.

On dissection, four days after the birth of the fœtus, the brain was still in a fair condition. According to St. Hilaire, there are no convolutions upon the surface, there is no division into hemispheres, the organ is generally smaller than the cranial cavity, the space that is left around it is filled with serum, and the lateral ventricles form one cavity and generally unite with the fourth. In the present case there were no convolutions, and the cerebrum formed a continuous mass, but the brain filled the cranial cavity. The lateral ventricles appeared to form one great and common cavity; and from it there were removed, by measurement, just four ounces of clear serum, with a very trifling loss. The parietes of this cavity must have been about two lines in thickness, and the interior was traversed by a septum of cerebral substance of some thickness; and not longitudinally, as one might suppose, but transversely. This septum was torn in the handling of the parts, and how far it was perfect was not ascertained. The opening into the fourth ventricle was very distinct, but not at all enlarged. Cerebellum, pons, and medulla oblongata appeared to be normal. The optic and olfactory nerves were carefully searched for, but no trace of them was found.

<sup>1</sup> Communicated to the Boston Society for Medical Improvement, December 10, 1877.<sup>2</sup> *Anomalies de l'Organisation*, tome ii., pages 375-437.



St. Hilaire says that the last are wanting, but he states very positively that the optic nerves exist, unless the eye is wanting, though they are fused wholly or in part. The third pair of nerves was most remarkably distinct, from where they arose in front of the pons to where they penetrated the dura mater on their way to the orbital cavity, and not to one side, but upon the median line, and so close as almost to touch.

There were two pairs of eyelids, as usual, of a lozenge form, and insufficient as a covering for the eye; but this last, when removed, appeared no larger than a single organ, and was of a globular form. No trace of an optic nerve was found. The muscles were not very satisfactorily made out, but in regard to number there seemed to be no more than would belong to a single organ. The eye was put into alcohol and corrosive sublimate, and a few days afterwards was examined by Dr. David Hunt, who has made so many very delicate microscopical examinations and preparations of the eye and ear of the foetal pig. The following is a report by Dr. Hunt of what he found in the present case:—

“The eyeball appeared as if flattened in vertical diameter; cornea and pupil oblong; there was a cleft in under side of vitreous into which a fold of retina extended; retinal pigment was continuous under this fold; there was one lens, oblong in shape and having a line of pigment in the inferior surface of its posterior half; ciliary body normal; near the posterior pole of the eye was a circular spot, three mm. in diameter, which was free from pigment; this spot had a regular contour.

“The following are some of the measurements of the eye and its parts in millimetres: Horizontal axis of eye,  $15\frac{1}{2}$ ; antero-posterior axis,  $15\frac{1}{2}$ ; posterior pole to superior border of cornea,  $20\frac{1}{2}$ ; posterior pole to inferior border of cornea, 13; horizontal measurement of cornea,  $10\frac{1}{2}$ ; vertical measurement of cornea, 6; horizontal axis of lens,  $6\frac{1}{2}$ ; vertical axis of lens, 5; from posterior pole of lens to attachment of zonula Zinii, superiorly,  $5\frac{1}{2}$ ; same measurement inferiorly,  $3\frac{1}{2}$ ; circumference of lens at attachment of zonula Zinii,  $19^{\pi}$ ; circumference of lens antero-posteriorly, 17.

“The fold of retina extending into the vitreous being free from pigment, the pigment layer presenting no break like that seen in ordinary foetal fissures of a single eye, would lead us to think that the fusion had occurred before the foetal fissure closed, and indeed before the appearance of pigment in the retina; the complete fusion of the lenses would lead us to conclude that at the time of fusion these structures were yet hollow; these conclusions would of course place the date of fusion in the earliest period of the existence of a secondary optic vesicle, or perhaps during the period in which there was only a primary vesicle.”

Between the skin and mucous membrane of the proboscis there was

throughout a thin layer of cartilage, and at the base a small bone, inferiorly; but nothing was found that resembled the nasal bones, either in the form of bone or of cartilage.

The cranium, having been prepared, presents the following appearances: The two frontal bones are as distinct as in any fœtus, though St. Hilaire says that in the family to which the Cyclops belongs they are almost always fused. He also says that they are much narrower than usual, and especially in front; but such is not the case in the present specimen. The orbital cavity, which is of a somewhat quadrilateral form, is bounded superiorly by the orbital portion of the frontals, and by a bone that is connected with them upon the median line, and that is shown by the examination of other specimens to consist of the small wings of the sphenoid. Inferiorly, it is bounded mainly by the two maxillary bones, of which the upright portions are turned downwards and inwards, and come together, but without fusion. In front of this surface there is a small median bone that consists of the two lachrymals, fused together and probably to the maxillary, and showing in the centre a blind foramen that is so large as to give it quite a tunnel-shaped form. Upon the sides are the malars, and posteriorly the great wings of the sphenoid. A large deficiency of bone upon the median line represents the foramen lacerum anterius of the two sides, fused; and in the recent state this was filled up mainly by connective tissue. The palatine portions of the maxillary bones, which are fused, are narrow, as usual, in proportion to their length, and have a sharp, longitudinal ridge along the median line. The proper palatine bones are also fused, there being no nasal cavity. St. Hilaire says that in the pig an upper median tooth is almost always found, but he says nothing of it in the human subject. In this case, however, there are between the right and left molars three alveoli, one upon each side and one central; and as each of these contains a sharp-pointed crown they must be regarded as canines. The body and the great wings of the sphenoid are sufficiently well developed, and the small wings show a minute foramen as for an optic nerve, though no such nerve was found. The parietals, occipitals, and temporals are normal, and all of the other cranial bones are wanting.

In the Warren Museum and in that of the Medical Society there are sixteen specimens of rhinencephalus and some allied forms of monstrosity, or representatives of them, and of these a summary description will now be given. The first three are in the Warren Museum, and the first has been described in the printed catalogue.

No. 842. A human fœtus. Six and a half months. Two eyes, fused. Proboscis one and a half inches by one inch, and with an opening half an inch in diameter. It is anencephalous as well as rhinencephalous, and



though St. Hilaire refers to several complications, this is one to which he does not allude. The spinal canal is open throughout, and a large mass of brain lies exposed upon the upper part of the back. Cruveilhier reports and figures a very similar case,<sup>1</sup> but it appeared after St. Hilaire published.

No. 3908. A human fœtus, born in the practice of Dr. M. B. Leonard, of East Boston. Breech presentation, and length seventeen inches. Drawing of external appearances by Dr. Fitz. The proboscis hung down over the central eye, long and slender, but enlarged towards the extremity. Left side of face much fallen in, and much less developed than the right.

The cranium is very irregularly developed. Frontals fused. Orbital cavity deep, oval transversely, but vertical diameter short, and bounded inferiorly by the upper maxillary bones, which are extensively fused. The body of the sphenoid, and the large and the small wings, are also fused, and these last are broadly connected with the frontals and irregularly developed. The right lower maxillary bone is normal, but the left turns upwards and becomes closely and extensively fused to the upper maxillary, malar, and great wing of the sphenoid upon the left side, the alveoli of the upper and lower maxillary bones being directly continuous. The left malar bone is also fused with the frontal. The left great wing of the sphenoid and the left temporal are imperfectly developed, and the zygoma is wanting. Between the occiput and the left parietal is a pretty large Wormian bone.

As I have never heard of a case here of Cyclops in the human subject until so recently as the year 1868 (and since then there have been five), I would allude to one of them that occurred in the neighboring town of Medford within two or three years, and of which a stereograph has been presented by Dr. D. Hunt (No. 4842); the proboscis turning upwards, and showing the central eye below.

Of the next nine subjects seven are pigs, in which animal, according to St. Hilaire, one half or more of all the cases of rhinencephalus have occurred; one is a dog and one is a colt; this form of monstrosity having been observed in a variety of animals and even in birds. These specimens belong to the society's museum, excepting one, and five of them, which are preserved in spirit, show a very long proboscis.

No. 824. Entire. Two eyes fused.

No. 825. Head only. Two eyes fused. Deficiency of integument and of cranium to a considerable extent between the eyes and proboscis, a complication not referred to by St. Hilaire.

No. 1283. Head only. One eye.

No. 1502. Skin of head stuffed. Eyes fused, and proboscis turned upwards and backwards. No. 1505 is a drawing of the entire animal

<sup>1</sup> Anatomie Pathologique, Livraison xxxiii.

by the late Prof. Jeffries Wyman, who published in the JOURNAL<sup>1</sup> a full report of the dissection and of the osteology.

The four following crania were prepared by Professor Wyman, and form a part of the very valuable anatomical collection that was left by him to the society. In each of them the nasal bones are very considerably developed, but distorted and apparently fused superiorly, though open inferiorly. These bones, which seem to have been accidentally fractured in the skull (No. 1421) that was described by Professor Wyman, and that belongs with No. 1502, were regarded by him in that specimen as the intermaxillaries, and the fragment that lies between them and the frontals he regarded as the nasals. He probably had not yet seen and prepared the three other crania when he wrote his description. The difference between this cranium and the others was most unaccountable, but Mr. B. H. Van Vleck, the assistant curator of zoölogy in the museum of the Society of Natural History, who has examined the specimens here described with the greatest care and interest, has, I believe, solved the mystery in suggesting the idea of a fracture. The frontals are separate throughout as two bones in No. 1421, but in the other crania the division is very faintly marked or only partial. The orbital portions are turned in so as fully to occupy the place of the ethmoid, and in each skull there is an opening of considerable size into what may be called the nasal cavity, and as if for the passage of an olfactory nerve if one had existed. There is also in three of the crania a small, flat, median bone between the frontals, and just in front of the orbital portions. This bone, which I cannot name, is wanting in No. 1421, but there is an open space where it had probably existed. The anterior sphenoid is connected with the large wings and with the frontals so as to form the roof of the orbital cavity, and three of them have upon the median line a foramen, undoubtedly for the passage of an optic nerve. In two the anterior sphenoid is far separated from the posterior, so as to leave a large open space; in one there is a strong union upon the median line by bone, and in one a delicate tongue of bone and cartilage connects the two. The upper maxillaries are fused, and the palatine portions are narrow, curved downwards, and with a prominent ridge along the median line. The median tooth, to which St. Hilaire alludes, exists in three of the skulls, and, as he remarks, it is in a groove, and not in a proper alveolus. Upon each side of it is another tooth, and all three of them, which are similarly and well developed, seem to be canines, and thus correspond with what was observed in Dr. Wellington's case. Between these canines and the molars there is an alveolus in each of the skulls, but in only one of them is there the crown of a tooth, and that is very minute and sharply pointed. The lachrymals are distinct along the front edge of the orbital cavity, and

<sup>1</sup> Vol. lix., page 121, September 9, 1858.



show two foramina, but are fused. The posterior nares are closed by a fusion of the palatine bones, as in Dr. Wellington's specimen. Ethmoid, vomer, and turbinated bones wanting, and the other bones of the head are not remarkable.

As some points in the above description may require confirmation, and as there was at least one bone that I could not name, I submitted the whole subject to Mr. Van Vleck, and, by a careful study of the structure and development of the early foetal cranium, he has shown very satisfactorily what bones are here represented. The following are his remarks:—

“The long tubular bone appears to represent the coalesced nasals. All traces of a suture on the median line above have, however, disappeared, if a suture ever existed. Judging from the appearance of this bone, it seems to have ossified from a single centre on the median line, or from two closely approximated centres.

“It certainly does not appear, in any of the skulls in question, to represent the intermaxillaries, as has been suggested: first, from its connection with the frontals on the median line above; second, from its roofing over and nearly surrounding the nasal chamber: third, in all the specimens there is on the under side of this nasal tube a rather broad line extending its whole length, in which no bone is developed. It is as though a broad plate of bone, lying in the upper wall of the nose, had been folded downward and inward on each side, so as to bring its edges near together and forming a nearly complete tube. Now, if this bone represented the coalesced intermaxillaries, this line of separation of the edges would be indicated on the *upper* side and not on the under, as is the case.

“If the intermaxillaries are represented at all, it is probably by a small bone situated near the base on the under side of the long tubular bone and forming a portion of the wall of the nasal chamber. This small bone is present in all of the skulls except one, from which it appears to have been lost. The intermaxillaries are certainly not present in front of or near the maxillaries. It is evident that the bones bearing teeth are maxillaries *only*, as each terminates abruptly immediately in front of the canine tooth. From the manner in which the skull is developed we should not expect to find the intermaxillaries in front of or near the maxillaries. In all the skulls in question many of the peculiarities appear to have originated in the arrest of the normal development of the bones of the face, caused by the movement of the eyes toward the median line and coming near together, or coalescing, to form a single eye. If, at an early period, the normal development of the bones be arrested in this manner they must, if at all developed, be divided into two more or less widely separated groups, the lower consisting of the palatines, pterygoids, maxillaries, and lachrymal bones, and

the upper of the nasals, intermaxillaries, and ethmoid. The palatines, pterygoids, and lastly the maxillaries are developed in the *maxillary process*, which, at an early period, grows forward on each side from the first visceral arch, and forms the upper lateral margins of the mouth.

“The nasals are developed in the upper and the intermaxillaries in the lower portion of the *fronto-nasal* process, which grows downward and forward, so that its lower end passes between and in front of the anterior ends of the maxillary processes.

“The *fronto-nasal* process is at first distinctly separated from the *maxillary* process. If at this period the eyes move toward the median line of the face so as to prevent the fronto-nasal process from growing downward and forward to form the maxillary process in front, the intermaxillaries will not be developed in their normal position in reference to the maxillaries, but will appear with the nasals above and separated from the maxillaries by at least the space occupied by the two closely approximated eyes or the single eye.

“Now the position of the small bone near the base of the nasals is such as we should expect in these cases of abnormal development. And, as it cannot be identified with any other bones or bone of the normally developed skull, it appears to me, without doubt, to represent the coalesced intermaxillaries.

“The two bones lying upon the maxillaries at a short distance from their anterior ends appear to be the lachrymal bones, as these are in all mammals developed in an immediate relation to the maxillaries. In two of the skulls, if not all, these bones are each provided with a canal, which is, perhaps, the lachrymal canal.”

No 1659. The upper and lower maxillary bones of a cyclopean colt. The lower is nearly seven inches in length, and normal; the upper nearly three inches and a third, and terminates abruptly in front of the molar teeth, as in the pig; the two bones, though scarcely fused, form the floor of the orbital cavity.

No. 4835. A rhinencephalous dog, presented to the Warren Museum by the Boston Society of Natural History. Not dissected. Sex, female.

No. 1506. Brain of No. 1421. No division into hemispheres, and through an opening upon the surface a large cavity is seen within.

No. 1747. A second specimen, and similar to the last.

No. 1748. Anterior portion of a double eye, the two lenses being at some distance apart.

Besides the above specimens there are in the medical society's museum two allied monstrosities in the pig, and that are preserved entire, and the head of a third in the Warren Museum.

No. 1181. Otocephalus (St. Hilaire). A long proboscis, and two eyes, about one fourth of an inch apart. No mouth. The maxillary



bones being atrophied in these cases, the ears are closely approximated. Two blind openings, between the ears, which St. Hilaire would consider as attempts at a meatus auditorius, one upon each side of the median line, and about two lines apart, and, just outside of these, the openings to the conchæ.

No. 1182. *Triocephalus* (St. Hilaire). Ears as in the last case, but more approximated, and with no appearance of an opening unless to the conchæ. Mouth, eyes, and proboscis wanting.

No. 869. Head only preserved, and described in the printed catalogue of the Warren Museum. Two fully developed ears, with an opening between them about one fourth of an inch in diameter, and through which air could be forced from below. Rather more than an inch above this opening is a rounded, fleshy mass, also about one fourth of an inch in diameter, and that must represent the proboscis. No appearance of an eye. Back of head well formed, as was the animal, otherwise, externally. According to St. Hilaire's classification this specimen would be intermediate between *otocephalus* and *triocephalus*.

Lastly, there is, in the Warren Museum (No. 4714), the cast of a *cyclocephalus* (St. Hilaire) that was taken by Dr. Norton Folsom. There was a single and apparently well formed eye, and a very perfect mouth, but no trace of a proboscis. The subject was a human fœtus, at or near the full term, and otherwise fully and well developed. Sex, female. No dissection.

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## RECENT PROGRESS IN THE TREATMENT OF CHILDREN'S DISEASES.

BY D. H. HAYDEN, M. D.

*Kjellberg on Contraction of the Anus in Children.*<sup>1</sup> — The author<sup>2</sup> prefers the term contraction to that of fissure, because he considers the spasm the more essential symptom. This affection is more common in children than is generally supposed. Thus, out of nine thousand and ninety-eight children brought to the Polyklinik of Stockholm it occurred in one hundred and twenty-eight. Of this number sixty were boys, sixty-eight were girls and the majority (one hundred and three) were a year old or under, no fewer than seventy-three being less than four months of age. The contraction may be seated in the external sphincter, but the internal sphincter is much the more common site. The symptoms resemble those observed in the adult, but are less severe. In enumerating the causes the author remarks that the fissure is by no means necessarily primary. It may be caused by the passage of hard-

<sup>1</sup> London Medical Record, October 15, 1877.

<sup>2</sup> Nordiskt med. Arkiv, Band viii., Häft 4.

ened fæces through the contracted orifice. Further, the contraction may exist without the fissure, and *vice versa*. For treatment, the author relies with confidence upon forcible dilatation with the fingers. At the same time he does not neglect to remove any condition that may stand in a causal relation to the affection, such as constipation, worms, rectal catarrh, etc.

*Notes on Pleuritic Effusion in Childhood.*<sup>1</sup> — The above paper, presented at the annual meeting of the British Medical Association, August, 1877, was based exclusively on what the authors had observed, either conjointly or separately. The notes were laid down on the following lines: (1.) The difficulties of diagnosis between pleuritic effusion and other chest affections in childhood; (2) the difficulties of diagnosis between serous and purulent effusions; (3) the natural course of pleuritic effusion in childhood when unmodified by treatment; (4) the methods of treatment which had appeared to them the most successful. The authors concluded that the variation in the classical signs and symptoms is so great that in many instances the diagnosis cannot be cleared up without exploratory puncture. They recommended the use of the hypodermic syringe in every case of doubtful dullness in the pulmonary regions. They laid great stress on the fact that, in children, extreme retraction of one side of the chest is compatible with the existence of both serous and purulent collections in the pleura of that side. The old teaching that the passing of a serous into a purulent effusion could be discriminated by the onset of hectic they believed to be incorrect. Marked hectic occasionally occurs with serous pleurisy, whereas in many cases of empyema it is present in very moderate amount, and for some days not at all. Clubbing of the finger ends they had never seen with simple serous effusion, but they had seldom seen an empyema without it. The natural issue of unmodified serous effusion appeared to be absorption, in most cases, sooner or later. Serum may continue serum for many weeks without being converted into pus. Alongside of facts showing this was to be remembered the extreme frequency of empyema in young children, and it seemed a question whether many cases of empyema are not empyema *ab initio*. As to the relation between tuberculosis and empyema, it was believed that the tubercle is more frequently secondary to the empyema than the reverse. With respect to spontaneous evacuation, that, by means of rupture into the lung, had appeared the least unfavorable, but it had been very uncertain, and protracted external spontaneous evacuation — between the clavicle and the nipple — had not given a good result. In the treatment of serous effusions the diagnostic puncture by a hypodermic syringe, the authors were quite sure, had been followed in

<sup>1</sup> By Thomas Barlow, M. D., and R. W. Parker, M. R. C. S. (London). *British Medical Journal*, August 25, 1877.



some cases by rapid absorption. Where the history is recent, the effusion serous and small or moderate in amount, they preferred to abstain from further operative interference. Where three weeks elapse without improvement, they would try the effect of removal of a small quantity either by the hypodermic syringe or the aspirator. If the effusion be considerable, it is right to perform paracentesis at once, not only to relieve dyspnoea, but to give the lung a chance of reëxpansion before adhesions bind it down, quite irrespective of pyrexia. If the fluid be purulent, it is recommended to withdraw as much as possible with a hypodermic syringe capable of holding at least two drachms. Occasionally, this will remove all that is present in one spot, and gently moving the needle will give information as to the size of the cavity. The authors had found by experience the necessity of bearing in mind the possible existence of multiple collections of pus completely separated by adhesions. If there be more pus at a given spot than the hypodermic syringe will remove, it is better to introduce the aspirator-trochar. The authors had not seen any English aspirator equal to that of Potain as made by Matthieu of Paris. A little bleeding in the course of the paracentesis had frequently stopped after the valve had been shut off a few moments. If, after reopening, blood should continue to come, it was recommended to stop the aspiration. In a large number of cases aspiration had been performed under anæsthetics. This appeared to have three advantages: (1.) The facility thereby gained of making a thorough exploration; (2) the avoidance of shock and collapse; (3) the avoidance of the troublesome cough so well known at the conclusion of paracentesis thoracis without anæsthesia. Chloroform preceded by a small dose of brandy appeared to them better than ether for these cases, and it was believed strongly that if anæsthetics be used at all they should be pushed on to complete insensibility. When the effusion was general, the authors found the angle of the scapula a better position for puncture than the midaxillary line. In localized effusions the puncture ought to be made at the centre of maximum dullness. In a certain number of cases there had been excellent recovery after a single aspiration; seven, at least, of such cases had been observed. Successful results had been obtained after repetition of the paracentesis up to six times. If the pus do not become fœtid, and if at each successive operation the quantity notably diminish, there seems no reason to limit the number of attempts to be made to cure the empyema by repeated aspiration. If the pus should become fœtid or rapidly reaccumulate in larger quantity, permanent drainage is recommended. In all cases it was contended that this should be by a double opening. If possible, the first opening should be made in the front of the thorax, and the second below and internal to the angle of the scapula. A long probe, threaded with a piece of drainage tube, may be passed downwards and

backwards from the first opening, and the second incision made over the point of the probe when it is felt through the integuments. The drainage tube should then be drawn through and secured by tying the two ends together. The authors contended that by the method of double opening there is the certainty of more complete and rapid evacuation of pus, and consequently of more rapid adhesion of the parietal and pulmonary pleura than by the single opening. They had often seen difficulties with respect to evacuation arise when a single opening had been made only in the midaxillary line. Apart from the unfavorable shape of the pleural cavity for drainage, it was important to bear in mind that when retraction begins to take place the ribs approximate most in the axillary region; and in a child, especially, there is risk of the intercostal space through which the tube passes being so narrowed that the tube is gripped by the two contiguous ribs. In front and behind, the width of the intercostal space is greater and undergoes less diminution as the side retracts. Most of the cases with which the authors had been concerned were dressed with oakum. They had seldom had need to use stimulant injections, but in one case they saw marked and rapid improvement from the use of a solution of quinine.

*Muriate of Pilocarpine in the Diseases of Children.*<sup>1</sup>— This medicine has already been employed by the author in thirty-three cases. The diseases were as follows: desquamative nephritis with dropsy, following scarlatina, eighteen; diphtheria followed by parenchymatous nephritis with extensive general dropsy, three; dropsy consequent upon disease of the heart, two; acute rheumatic polyarthritis, three; severe broncho-pneumonia, three; tussis convulsiva, two; epidemic parotitis, two. In the latter the medicine was used for its sialogogue effect. The ages varied from nine months to twelve years. The larger number were under seven, and nine were under three. A two per cent. solution was used, and the remedy given subcutaneously. The dose employed was, for infants under two years, about one thirteenth of a grain; for those between two and six years, from about one tenth to one seventh of a grain; when between seven and twelve, one seventh of a grain at the first injection, and later, according to circumstances, from one fifth to one third of a grain. As a rule, but one injection was given daily. In exceptionally urgent cases, when, for instance, there was suppression of urine for twenty-four to thirty-six hours, with symptoms of uræmia, two to four injections of one sixth of a grain each were given in the twenty-four hours. With the exception of two cases the injections were uniformly well borne. In these there supervened after each injection vomiting, hiccough, faintness, repeated yawnings, and general trembling of the extremities. The above disagreeable

<sup>1</sup> Central Zeitung für Kinderheilkunde, Berlin, No. 1, October 1, 1877, by Prof. R. Demme, Physician at the Children's Hospital, Berne.



symptoms were very much diminished by preceding each injection by a small quantity of cognac.

In all the other cases the pilocarpine proved itself to be a very efficient diaphoretic and sialogogue. In children over four years of age the diaphoretic action predominated over the sialogogue; in those between one year and two years of age the reverse was the case. The action of the medicine began to show itself from three to five minutes after it was injected; it then reached its greatest intensity within ten to fifteen minutes, remained stationary during twenty to forty minutes, exceptionally during fifty to seventy-five minutes, and then gradually decreased, continuing, however, for several hours in a very moderate degree. In one case only did it act differently from this, the diaphoretic action ceasing abruptly after eight or ten minutes. In the great majority of times the diaphoretic action lasted longer than the sialogogue.

It was particularly in cases of desquamative inflammations of the kidneys, with dropsy, following scarlatina, diphtheria, etc., that the value of this remedy as a diaphoretic was made manifest. In the majority of these cases diuresis was also excited; while at the same time the amount of albumen and blood was not increased, but rather diminished.

There was no demonstrable influence upon the activity of the heart's action.

*The Use of Salicylate of Soda in the Febrile Diseases of Children.*<sup>1</sup> (Hagenbach.) — The author gives in this article the results of his large experience with this remedy, which has become a very favorite one in the Children's Hospital at Basle. The following have been found to be the medium doses, generally divided into two portions, and given with an interval between them of half an hour: for children under one year, fifteen grains; when between one year and two years, from twenty-two to thirty grains; for those between three and five years, from thirty-seven to forty-five grains; when between six and ten years, from fifty-two grains to a drachm; when between eleven and fifteen years, from one drachm to two scruples. The best hour for its administration is five o'clock in the evening. It is seldom given more than once in the twenty-four hours, and when possible it should be taken on an empty stomach. When sweetened it is taken much more willingly than quinine; the desired action of the latter, however, is much more uniformly observed than that of the former. It happens oftener that after large doses we do not obtain the sought for results than that small doses act too powerfully. In continued fevers the first doses appear to produce more decided antipyretic effect than the subsequent ones, causing a reduction in temperature from one and a half to four degrees, as a rule, within three hours after it has been taken. The greatest re-

<sup>1</sup> Correspondenz-Blatt für Schweizer Aertzte, No. 15, 1877. Medicinische Central-Zeitung, October 10, 1877.

mission occurs after six hours. With the fall of temperature there was regularly a diminished frequency of the pulse and of respiration. Unpleasant secondary effects are sometimes experienced. It is not rare that the medicine is vomited. If the vomiting does not take place until from one quarter to one half an hour after its administration there often ensues a complete remission notwithstanding. When the first dose is vomited the second, given half an hour later, is often retained. Diarrhœa is sometimes produced by its use, which is, however, of a very transient character, and does not leave behind it any serious disturbances of digestion. When there is restlessness, as shown by an anxious countenance, talkativeness, etc., this passes off with the appearance of the remission, and a quiet sleep follows the breaking out of the perspiration. Symptoms of collapse are extremely rare. Marked ringing of the ears or deafness never takes place.

Whereas it was previously at this hospital a frequent occurrence in the treatment of febrile diseases in children to make use of baths, wrapping in wet sheets, and of ice-bladders, in addition to the energetic employment of quinine, it is not now uncommon for weeks to elapse without a single bath being given for the purpose of reducing the temperature. In the severe forms of scarlet fever or of typhoid fever baths are still resorted to, but in the lighter forms salicylate of soda is always used instead. It is only now and then that, on account of nausea or repeated vomiting, it is found necessary to abandon its use and to resort to quinine.

*Typhoid Fever in Children.*<sup>1</sup> (Henoch.) — This report is based upon ninety-seven cases. Of these the largest number were between six and nine years of age. It was extremely rare in the first two years of life. Boys were oftener affected than girls. The difficulties in the way of diagnosis were often very great, even in fatal cases, owing to the frequently very slight anatomical changes left behind, which, moreover, often presented nothing characteristic of the disease.

In a few cases the disease began suddenly with a chill, followed by a rapid increase of temperature, reaching in the first days 105.8° F., or higher. It ran, for the most part, the same favorable course as with adults, lasting from two to three weeks, in one case only one week, in four cases seven weeks. The stage of decrease began abruptly in six cases, without, as usually happens, there being any stadium intermittens. The pulse was often slow in relation to the increase of temperature. The nervous disturbances were much less marked than they are found in adults, and bore no relation to the height of temperature, so that they cannot be explained by the latter alone. During the stadium intermittens there were often serious nervous troubles, such as aphasia, paralysis, amaurosis. The duration of these varied, and they terminated nearly always favorably.

<sup>1</sup> Annual Report for 1875. Charité Hospital of Berlin.



Hæmorrhage from the intestines took place four times. The cases in which it occurred recovered. There was one case of perforation of the intestine, with fatal peritonitis, and one case of parotitis which resulted fatally.

Decubitus occurred in four or five cases; but in none of these was it extensive or dangerous. Relapses took place sixteen times. In four of these there had been given no cooling baths, in four only a few, and in eight a great many. None of these sixteen cases died.

With regard to treatment, Professor Hensch warns against the use of cold-water baths, owing to the liability of their causing collapse. To bring down the temperature quinine and salicylate of soda are more effective than baths (77° to 81.5° F.). In other respects the treatment was purely symptomatic, great attention being bestowed upon the cautious administration of nourishment.

*Syphilis of the Testis in Infants.* — Professor Hensch reports<sup>1</sup> seven cases of this disease. In one case, which died of dysentery, there was found an extensive interstitial hypertrophy of connective tissue, which was most marked in the corpus Highmori. From this and an analogous case of Déprés, the author draws the conclusion that in the early stages of interstitial orchitis recovery by mercury is possible. Later, when there takes place a new formation of fibrous tissue, no change can be effected by treatment. The age of the children was from three months to two years and a half. In four cases both testes were affected, in three the left only. The author had met with four cases of tuberculosis of the testis in children. This disease was invariably limited to the epididymis, and consisted of hard nodular masses. There was, at the same time, in all the cases tuberculosis of the lungs or cheesy inflammation of the bones, and all symptoms of syphilis were absent.



## PROCEEDINGS OF THE SPRINGFIELD SOCIETY FOR MEDICAL IMPROVEMENT.

G. S. STEBBINS, M. D., SECRETARY.

DECEMBER 26, 1877. The president, Dr. S. W. Bowles, in the chair.

*Rabies and Hydrophobia.* — Charles P. Lyman, V. S., read a paper upon this subject, declaring at the outset that no satisfactory answer could be given to the question, What is hydrophobia?

We know that it is readily communicated to other animals and to man through the medium of the dog-bite and the contact of the saliva with the open wound, the absorbents of which take up the poison, securing its general diffusion throughout the system through the medium of the circulation. Any other liquid than the saliva taken from a rabid animal is harmless, even trans-

<sup>1</sup> Deutsche Zeitschrift für praktische Medicin, 1877, No. 11.

fusion of blood from the rabid into a healthy animal having failed to produce any deleterious results.

The saliva of the canine and feline families is the most virulent, that of the herbivora much less so, while man is allied to the latter class in this respect.

In the rabid dog the disease is at first almost invariably of a gentle type, which is always followed by a period during which the desire to rove is altogether unconquerable, and will be gratified unless the animal is securely confined. The writer presented the following statistics collected by M. Bouley, of the Institute of France, and which extend over a period of several years. France being divided into departments, with inspectors appointed for each one, the reports gathered from these sources are more valuable and accurate than can be obtained from any other quarter.

There were three hundred and twenty persons bitten by rabid animals, with the result of hydrophobia in one hundred and twenty-nine, giving a mortality of forty per cent.

Out of the three hundred and twenty cases, the wounds were not followed by the disease in one hundred and twenty-three, showing the established rate of innocuousness to have been about thirty-eight per cent.

There still remain sixty-eight cases in which the termination is not reported, the plausible supposition regarding them being that they also escaped. Of the three hundred and twenty cases, two hundred and six were males, eighty-one females, and in thirty-three cases the sex was not mentioned.

Mortality varies in the sexes, as shown by the fact that, out of two hundred and six male cases one hundred died, and out of eighty-one female cases twenty-nine were fatal, which is equivalent to forty-eight per cent. of the former, and thirty-six per cent. of the latter.

The greatest number of persons bitten was between five and fifteen years of age, the careless, teasing ages of children. While more children are bitten than adults, it is shown that the former enjoy the greater freedom from the disease, the supposition being that they are less likely to contract it on account of their natural freedom from anxiety, and their consequent mental quietude.

Out of the three hundred and twenty bites inflicted, two hundred and eighty-four were by male dogs, twenty-six by females, five by cats, and five by wolves.

As regards the distribution of cases throughout the year, the following facts appear : —

December, January, and February, seventy-five ; March, April, and May, eighty-nine ; June, July, and August, seventy-four ; September, October, and November, sixty-four. These facts show that temperature or the season of the year has but little to do with the prevalence of the disease.

Concerning the stage of incubation, statistics show that out of one hundred and six cases noted, seventy-three occurred during the first sixty days, the remaining thirty-three being irregularly distributed over a period of two hundred and forty days ; hence the conclusion that after the sixtieth day from the bite the probabilities of escape considerably increase, and that after the ninetieth day immunity is almost certain. The older the victim, the shorter, as a rule, is the period of incubation.



In seventy-four cases death resulted during the first four days, life being prolonged beyond that time in sixteen cases only. The percentages of mortality from bites on different parts of the body were as follows: face, ninety; hands, sixty-three; arms, twenty-eight; legs, twenty-nine; and on the body, twelve out of nineteen cases were fatal.

Regarding methods of prevention, out of one hundred and thirty-four cauterized wounds, forty-two only were fatal, or thirty-one per cent., while in non-cauterized wounds we find that out of sixty cases the number of deaths was fifty-six, or eighty-four per cent.

The most effective treatment of wounds was found to have been the actual cautery, stick caustic, and the stronger mineral acids.

The interesting fact is recorded that in Hayti, where the disease has been very prevalent, only one fatal case of hydrophobia was ever known, the natives' somewhat heroic treatment having been to burn gunpowder on the wound, following up this cauterization with the application of blisters, strong mineral acids, and mercurial salivation.

Touching the disposition of dogs, after being bitten, the writer said that they should not be allowed their freedom until after eight months' quarantine.

Dr. Stickney asked if rabid dogs always frothed at the mouth, and were flecked with foam, to which Dr. Lyman replied that such was almost never the case, except during excitement or the period of ferocity. *Per contra*, the saliva was usually thick, viscid, ropy, and hanging from the corners of the mouth.

Dr. Lawton inquired if the method of keeping dogs, different food and quarters, rendered them more or less liable to the disease, which the essayist decided did not, it always having been prevalent to a greater or less extent, among the best kept kennels of Europe.

Dr. Chapin asked if anything was known as to the positive cause of the disease, to which Dr. Lyman gave a negative answer.

Dr. Chapin inquired if, after a dog is bitten, it could communicate the disease by its bite before the earliest manifestations or development of the disease in itself. Dr. Lyman said it could not.

Dr. Bowles asked if there was any truth in the prevalent opinion that the Spitz dog was any more liable to the disease than any other species. Dr. Lyman gave it as his opinion that there was no foundation for such a belief.

Dr. G. C. McLean asked if male dogs were chiefly responsible for the spread of the disease; to which Dr. Lyman replied that facts did not warrant such a conclusion, and instanced certain countries where dogs of both sexes were allowed to rove together indiscriminately, and at all times, without apparently affecting the prevalence of the disease.

Dr. Stickney asked if any harm probably would result from the saliva of a rabid animal being swallowed by a healthy one. In replying to this question. Dr. Lyman gave a report of a well-authenticated case which occurred in the neighboring town of Westfield, where several fowls ate some meat which a rabid dog attempted to swallow, and not many days afterward they were seen to walk with a peculiar staggering gait, then to stop and fly straight up into the air, with a spiral motion, and suddenly fall to the ground, dying of exhaust-

ion. This fact tends to contradict a former statement, that saliva of a rabid animal must come in contact with an open wound in order to communicate the disease. Dr. Stickney reported the case of a horse, in West Springfield, which died of hydrophobia about two weeks since. Three weeks prior to the attack the horse was bitten on the lower lip by a dog. The first symptom of the disease was manifested by the horse as it attempted to bite its owner while he was unfastening him from the stall, the animal at the same time appearing generally vicious and uneasy. After returning the horse to his stall, the owner went aloft and lowered a rake handle into the manger, at which the horse snapped, finally breaking it in pieces. After this a tin pail of water was lowered into the manger, which the infuriated animal treated quite as roughly. Later on, the horse would bite his sides and legs, kick, and neigh with the peculiar altered tone of voice so characteristic of the disease. Subsequently the horse was secured upon his side, after which frequently recurring spasms set in, resulting in death from exhaustion.

Dr. Stebbins remarked that he took pleasure in the fact that recently a few *animals* had died of the disease, as it would tend to explode the popular opinion that *human victims* die from effects of fright and mental anxiety, rather than from the poison itself, as it could hardly be supposed that the cattle, horses, fowls, and recently a six weeks old calf were over anxious about themselves, or lay awake nights thinking about and anticipating the disease.

After the foregoing discussion of the essay several cases were reported of various kinds, which had recently occurred in the practice of individual members, when a motion to adjourn for two weeks was carried.

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### VITAL STATISTICS OF LIFE INSURANCE.

THE social as well as scientific interest of all problems relating to life, and the difficulty in the way of so eliminating irrelevant or even misleading factors as to draw satisfactory deductions from the ordinary census and tables of vital statistics, have led Dr. Oldendorff to attempt a novel plan of investigation, and to scrutinize the annual reports and account books of sixteen German life-insurance companies for the purpose of ascertaining what their statistics teach. This method, of course, excludes a consideration of the mortality in the early periods of life, and has to do with (1) the age when insured, (2) the date of insurance, (3) the date of death, (4) the cause of death. As only the names of picked men and women appear in the book of insurance companies, there is another source of error eliminated, in considering the influence of different trades on health, from the fact that the various individuals forming the basis of the analysis are supposed to be healthy at the start.

Considering the mass of statistics used and the different ways in which they were kept by the various companies, or indeed by the same companies at different times, the author has picked out their salient points with a considerable degree of ingenuity. The volume <sup>1</sup> before us is the first of a series and really

<sup>1</sup> *Der Einfluss der Beschäftigung auf die Lebensdauer der Menschen: nebst Erörterung der wesentlichen Todesursachen.* Beiträge zur Förderung der öffentlichen Gesundheitspflege, von DR. A. OLDENDORFF. Berlin. 1877. S. 106.



constitutes only an introduction to the subject. In dealing with a consideration of the correctness of the statistical method of research, and of the average age at death as a measure of the mortality in general and of the mortality from the different occupations, in the preliminary remarks, the striking fact is mentioned that examinations of the records for sixty-four years, in three different parts of Germany, showed the average age at death among steel-grinders who had passed their twentieth year to be respectively 41.24, 41.40, and 42.22 years, — the difference being so slight as to make a probability of error very small indeed. A full review of the influence of the various trades on health and duration of life is reserved for future volumes, which are to appear in series until the subject, the writer, or the reader is exhausted.

The first series of tables shows that in one company, in 10 years, among the insured, the average age at death of 1743 men was 56.70 years; of 261 women, 56.82 years. Another company in 28 years gives for 12,073 men the average age at death as 58.55 years, and for 999 women, 62.10 years. The aggregate of thirteen companies for a single year show for 2544 men an average age of 53.49 years, and for 439 women 48.55 years. Section 5 and the next series of tables show that the prevalence of epidemics in a community scarcely affects, even temporarily, the rates; and especially in the second, third and fourth great European cholera epidemics (1848–50, 1852–54, 1866) the relation between the number of the insured who died and the sum of years they lived did not essentially differ from the epidemic-free years. In analyzing the average age at death, in Section 6, the results show, so far as these tables are concerned, that the age at death of both sexes increases up to a certain point with the age of the company insuring, which is explained by the fact that among the earliest insured is a large proportion of young people who, of course, reduce the rates. It also appears that among women the relative number of the insured who die in the early ages of life is greater than with men; but their average duration of life is at all periods greater, a fact which, by citations from Engel, Oesterlen and Melbeck, is shown to be true of mixed populations. In all Geneva, — an exceptional city by the way, for it is doubtful whether there is anywhere another in which the general condition of the inhabitants is now so high — the average age at death of all persons over 20 years of age is for men 58.44 years, for women 59.54, and for both sexes together 59.01. In Prussia, the similar figures stand at 54.75 years for men: 55.52 for women; and in Berlin, 47.84 and 51.72 years respectively. In six districts of Germany the average for both sexes is 51.10 years. Some interesting statistics from De Neufville show that in Frankfort-on-the-Main the average age at death of those who have reached the age of twenty years is for the whole population, 51 years and 8 months; for the Christians, 50 years, 8 months; for Jews, 56 years, 7 months.

Four sections, comprising over forty pages, on the relations between the average age of the insured and of those having died are chiefly interesting from the final and only full table giving statistics of thirteen companies, by which it appears that of the insured the periods of greatest mortality among women are in order (1) over 61 and between the ages of 31 and 40, (2) 41–50, (3) 51–60, (4) 21–30; among men, the order is (1) over 61, (2) 41–50, (3) 51–

AVERAGE DURATION OF LIFE AT SELECTED AGES IN PERSONS TWENTY YEARS OLD  
AND UPWARDS.

Age.	Sex.	AUTHORITIES.								
		Gotha Life Insurance Company, 1843-1870.	Gotha and Leipzig Insurance Companies, 1861-1870.	Statistics of Prussia, 1816-1860.	Statistics of Berlin, 1843-1860.	Twenty English Insurance Companies. <sup>1</sup>	Drunc's Tables. <sup>2</sup>	Farr's Statistics. <sup>3</sup>	Finlaison's Tables. <sup>4</sup>	Quetelet's Tables. <sup>5</sup>
20	M.	38.55	39.37	34.75	27.84	42.1	40.3	39.5	38.4	36.4
	F.	42.10	42.10	35.52	31.72	44.0	40.9	40.3	39.1	37.7
25	M.	33.58	34.46	32.08	25.69	38.4	36.5	36.1	35.9	33.5
	F.	37.14	37.30	32.34	29.04	40.8	37.4	37.0	36.5	35.2
30	M.	28.81	29.77	29.08	23.20	34.7	32.7	32.8	33.2	30.5
	F.	32.41	32.76	29.37	26.90	37.6	34.6	33.8	33.6	32.0
35	M.	24.46	25.52	25.92	20.84	31.0	28.9	29.4	30.2	27.7
	F.	28.01	28.80	26.47	24.96	34.3	31.4	30.6	30.5	29.0
40	M.	20.68	21.76	22.85	18.55	27.4	25.4	26.1	27.0	24.9
	F.	24.09	24.77	23.62	22.71	31.1	28.2	27.3	27.2	26.1
45	M.	1	18.22	19.92	16.38	23.8	21.9	22.8	23.8	21.9
	F.	20.40	21.57	20.70	20.35	27.8	24.9	24.1	23.7	23.2
50	M.	14.19	15.01	17.08	14.39	20.3	18.6	19.5	20.3	18.9
	F.	16.75	17.85	17.64	17.70	24.4	21.6	20.8	20.2	20.3
55	M.	11.43	12.03	14.45	12.51	16.9	15.4	16.5	17.1	15.5
	F.	13.23	14.15	14.73	15.07	20.8	18.2	17.4	16.7	17.4
60	M.	9.06	9.46	11.83	10.67	13.8	12.4	13.5	14.4	12.4
	F.	10.52	11.18	11.87	12.43	17.3	14.9	14.3	13.6	13.9
65	M.	6.98	7.34	9.72	8.84	11.0	9.8	10.8	11.6	10.1
	F.	7.90	8.26	9.89	10.08	14.0	11.8	11.5	10.6	10.8
70	M.	5.51	5.69	7.76	7.01	8.5	7.6	8.5	9.2	7.6
	F.	5.78	6.41	7.87	7.85	11.0	9.1	9.0	8.2	8.3
75	M.	4.31	4.35	6.18	5.51	6.4	5.8	6.5	7.1	6.6
	F.	4.43	4.93	6.49	6.14	8.4	6.9	6.9	6.4	6.8
80	M.	3.06	3.13	4.92	4.26	4.7	4.3	4.9	4.9	5.2
	F.	2.96	3.13	5.40	4.82	6.5	5.6	5.3	4.9	5.4
85	M.	1.64	1.68	3.82	3.33	3.5	2.6	3.7	3.1	3.8
	F.	2.17	2.17	4.86	3.57	4.8	3.7	4.0	3.8	4.1

<sup>1</sup> Basis of calculations : 160,426 insured persons, of whom 120,243 were men and 16,604 women, excluding 11,146 ill, and 2432 exposed to lives of danger ; 26,721 died.

<sup>2</sup> The result of sixty-nine years' experience of one of the German asylums.

<sup>3</sup> Census of 1841 and of 1851 ; also mortality of England and Wales, 1833-1854, including 6,470,720 deaths.

<sup>4</sup> From observation of 22,000 annuitants.

<sup>5</sup> Census and Registration of Deaths in Belgium, 1856.



60, (4) 31-40. Another section gives, by way of illustration, similar statistics from Berlin and Frankfort, which are with some difficulty compared, as the three sets of calculations are not made on the same basis. The five sections might have been somewhat better arranged, but at best are of little use to any others than officers of insurance companies, and rather unsatisfactory even for them. The average duration of life<sup>1</sup> at the various ages of the population in Prussia, in Berlin, and of those who had insured their lives with the large insurance companies forms an interesting table, from which several important facts are to be learned. By comparing this with another table given by the author, and with a little rearrangement, the following exceedingly suggestive series of facts is shown.

It may be seen that after a given age, varying somewhat in the different places, the duration of life is less, in Germany, among the insured than with the uninsured. With this curious fact may be placed the statistics of the Gotha Insurance Company, by which it appears that the average age at death among the insured was :—

	For Men.	For Women.
1843-1852,	54.88 years.	56.70 years.
1853-1860,	58.46 "	62.31 "
1861-1870,	60.12 "	65.14 "

From the large table, we might infer that insuring life shortens it, after a certain age! But this apparent anomaly is not difficult of explanation. And from no better sources than the Gotha figures it has been "proved" that the duration of life is increasing so fast that at a similar rate we should be not many generations in becoming Methuselahs. However this general statement of an increase in longevity in modern times may be, neither Dr. Oldendorff's, nor any other statistics that we have been able to get, show that the three-score years and ten of thirty centuries ago are less than the days of our years now, or that the strength of fourscore is any less labor and sorrow than in King David's time.

The book is a useful contribution to sanitary literature, although too much given to unimportant details and therefore rather dry reading. By supplementing it with the excellent Preliminary Report of the Mortality Experience of the Mutual Life Insurance Company of New York, of which a second edition has lately been issued by Drs. Winston and Marsh and Mr. Bartlett, a mass of useful information may be got.

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## THE SEWERAGE OF BOSTON.

SEVERAL weeks after our accomplished city engineer had made his plans for extensive experiments testing the effect of the new main-drainage system upon the ground-water, and while those plans were in process of execution, a petition was presented to the city council that something of the sort might be

<sup>1</sup> In one table, the writer compares the *Mittlere Lebensdauer* (average duration of life) with the *Lebenserwartung* (expectation of life) in the other. But he apparently uses the two terms as synonymous, although such is not the custom with us and in England. He means, I suppose, the average duration of life.

done. In the mean time our daily papers have been quoting various paragraphs to the effect that Trinity Church and a large part of Boston are to be ruined by the intercepting sewer, through decay of the piles. A little knowledge of facts will easily satisfy any one that the ground-water now, in the drainage area of the Albany and Providence railroads, is so low (in places even at grade four) that it cannot possibly be affected by the new sewer. Indeed, it is doubtful whether there will be any effect from it on the Back Bay south of Commonwealth Avenue, beyond keeping the ground-water at a constant and uniform level, instead of fluctuating. There are good reasons for supposing that north of Commonwealth Avenue the grade of the ground-water may be lowered, although not enough to endanger houses that have been built of late years; but this is a matter of dispute among the engineers, some of them saying that we cannot appreciably affect the level of the ground-water, if we try, beyond keeping it at a fixed grade, which is not at present possible. This will be an immense gain from a sanitary point of view; and if the experiments now making show that the permanent level of the water in the soil will be lowered enough to do serious harm by the proposed system, measures will be taken to accomplish the desired object by a modification of the plans, which will be successful from all points of view. An impervious iron sewer, for instance, might be used. It is understood that the sole reason why the original commission placed the new sewer in Marlborough Street was to save expense; if it should be put along the Charles River, with an embankment and drive-way, many of the present objections would be removed. We should also gain a park of such value that the medical profession would probably unite in recommending it.

Another bugbear has appeared in articles by writers in the *London Times* and in the *Medical Times and Gazette*, from which quotations have been made in our daily papers. In all large rivers, especially at their mouths, there are thousands of tons of shifting material which change from year to year their positions in the river-beds,—in London, Liverpool, Boston, and elsewhere. In our city, the harbor commissioners have shown that the channels have not been in the slightest affected by the discharge of sewage from our present sewer-outlets, which are very much worse situated than the new single one will be, while the silting up of the docks at low tide will in the future be avoided. In Liverpool, the sewage is discharged at all times of the tide; and although there is some deposit at the bar of the harbor, the best engineers deny that it comes from the sewage. In London we do not know of a single first-rate authority who has given an opinion that the sewage of the city is obstructing the Thames, while Bazalgette, Hawkshaw, Bidder, Hawksley, Haywood, Gregory, Rawlinson, and other engineers of eminence state the opposite to be the fact. The only two bodies which have from year to year made measurements and drawn sections of the river at various points are the Thames Conservancy, whose interest and duty it is to protect the Thames, and the Metropolitan Board of Works, who have charge of the sewers. Their results are stated by Sir Joseph Bazalgette to be mutually confirmatory, and to show the following facts for the years 1861–76: In the fifteen years there has been some deposit; in the *six* years, 1861–67, up to the time of the adoption of the new outlets at Barking Creek and Crossness, respectively ten and



fourteen miles below London, there was more deposit than in the *nine* years, 1867-76, since the discharge of the sewage at those points, and this is shown not to be due to dredging. The Thames mud, too, is much heavier than the sewage, which is really so small a part of the whole amount of solid matter discharged into the river along its course that even the late Dr. Letheby, after repeated chemical examinations, said "the turbidity of the river is not caused by the sewage which flows into it, but by the disturbance of the mud upon its banks; for, within certain limits, the farther we go down the river, and away from the influence of the sewage, the greater is the turbidity." This position is also sustained by Hoffmann and Witt in the report of Messrs. Bidder, Hawkshaw, and Bazalgette.

Captain Calvert, whose name is a new one to us in this connection, made the recent surveys, and has only repeated complaints which have often been made before, in investigation of which the royal commission said, a few years ago, that "the balance of evidence is against the assertion that it [the deposit at Barking] has come from the metropolitan sewage detritus;" and that "the main channel of the Thames has not been reduced in depth of water by such detritus." Indeed, it has been shown that the channel has been gradually deepening since 1833, owing to the removal of the obstructions formerly due to the London and Westminster bridges, now removed. The reach, of three quarters of a mile in length, below the main outlet, which is alleged to have become obstructed, has been carefully measured by the Metropolitan Board of Works to ascertain the facts. From 1866 to 1868 there was a decrease in the deposit of 480,000 cubic yards; 1868-69, an increase of 142,000; 1869-70, a decrease of 216,000; 1870-71, an increase of 277,000; 1871-72, an increase of 279,000; 1872-73, a decrease of 260,000; 1873-74, a decrease of 53,000; 1874-75 a decrease of 100,000, and in the whole ten years a decrease of 411,000 cubic yards, showing, as has been repeatedly stated by their first engineers, that the causes of the deposit are variable, and not dependent on the sewage. With such a weight of testimony we should be slow to accept Captain Calvert's results, unless further investigation shows that all the prominent engineers of London have been for twenty years in the wrong.

The immense reservoir at Crossness for storing the sewage, so as to be discharged only during the first two hours of ebb tide, and the four pumping stations are ventilated by pipes passing into the chimneys of the engine-houses, so that there is absolutely no foul smell from them. Indeed, the low-level pumping-station on the north side of the river is just across the street from the Chelsea Hospital; and at the two great outlets there is no offensive odor that can be perceived a dozen rods.

In considering the somewhat heated discussions over the sewage question in England, it should be remembered that the subject has assumed there a strongly partisan aspect, and that many persons are interested, by patent processes and otherwise, in having one plan or another prevail. Statements of opinion, therefore, often come to us with the appearance of facts, and the various views are expressed with an intensity which we do not always understand here.

There is no danger of any serious check to the progress of so great a sanitary improvement, at the present time, as the new main-drainage scheme of

Boston. That it will be better for the health of the citizens to keep the ground-water at a uniform grade, beside lowering it somewhat, cannot be doubted. The removal of the putrid sewage which is now stinking in our sewers by a rapid, regular flow is absolutely essential; and improvements in those sewers which are badly constructed must soon follow. Then, and only then, in the thousands of cases where defective house drainage is filling dwellings with bad smells and pale faces, if not with actual sickness, the city authorities can say to the house-owners, the fault is your own and yours alone.

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### DR. JOSIAH BARTLETT.

DR. BARTLETT died at Concord on January 5th, at the age of eighty-one years. He had been longer in practice than almost any graduate of the Harvard Medical School, Dr. William Perry, of Exeter, N. H., and the late Dr. Martyn Paine, of New York, having, perhaps, practiced a few years more. He graduated at Harvard College in 1816, in the same class with the Rev. W. B. O. Peabody, and took his medical degree in 1819, in the same class with the late Dr. John Jeffries. Instead of going abroad, as Dr. Jeffries did, Dr. Bartlett, then twenty-three years old, settled in Concord in 1819, and has remained there ever since, in the constant practice of his profession for fifty-eight years. He visited patients within a week of his death, and has been an active physician since he passed the age of fourscore. His father, Dr. Josiah Bartlett, of Charlestown, was in practice at the time of the battle of Lexington, and amputated an arm on the 19th of April, 1775. A hundred years afterward the son was able and, indeed, rather desirous to perform the same operation, if it had been necessary, in his circuit of patients. This is a remarkable incident, as showing how many years both the father and the son continued in the exercise of their profession. He early became interested in the total abstinence movement, and was a faithful and efficient worker for that cause all his days, undergoing much persecution and slander and some loss of practice most cheerfully and courageously for what he sincerely believed a most necessary reform. He was wont to say that when he first came to Concord almost every substantial farmer was drunk, with all his farm hands, in haying-time and on holidays; now such doings are confined to very few persons, who suffer in repute thereby. He was absolutely without fear, and had the self-reliance so needful in a country physician. He was, however, never bold at his patient's expense. His strength and health were excellent, but he was a sufferer for many years from a fractured ankle, sustained at the time of a collision with another vehicle in the night, and of late years he had suffered from chronic bronchitis. The disease to which he succumbed was pneumonia. He has been the recipient of the highest honors which it was in the power of his professional colleagues in the Massachusetts Medical Society to bestow, and for two years was president of the society. He was, as has been said of him, the true type of the New England country physician; we might add, of the old school, which exerted an elevating and refining influence upon the profession of this and neighboring States, and which, we are happy to say,



has left its impress upon the present generation. Few who knew Dr. Bartlett will soon forget his hearty, genial bearing and his courteous manner. Another link which binds us to the early history of the Massachusetts Medical Society has been broken.

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### MEDICAL NOTES.

— We regret to learn that Dr. George E. Hersey, of Manchester, New Hampshire, died on Tuesday, January 8th, of diphtheria. For several weeks he had been in attendance on cases of this disease, and on the previous Friday the symptoms had first manifested themselves. There was evidence of marked septic poisoning from the outset, and on Monday laryngeal obstruction gave rise to so much dyspnoea that tracheotomy was performed by Dr. C. B. Porter, assisted by Drs. Abbott, Crosby, Sturgis, Pattee, and Bonney. He declined to take ether or chloroform, and bore the operation with great firmness. Although relief followed, the patient succumbed to the disease on the following day. Dr. Hersey was born September 1, 1847. He was a graduate of the New Hampshire Medical College, and afterwards a student at Bellevue College, where he became a warm friend of Professor Loomis. He has since practiced in Manchester, and, although a young man, had acquired a large practice, and a reputation as a surgeon which gave him a very prominent position in the profession of his State. He had contributed to the literature of the state society proceedings a number of papers on plaster bandages in fractures. He was an authority in expert testimony, and was frequently called upon the stand in that capacity. His loss will be greatly felt both in professional and social circles, where his skill as a physician and his character as a man were fully appreciated. The Manchester Medical Society, at a special meeting called for the purpose, and the Concord Medical Society have adopted resolutions of respect for the memory of the deceased.

— A bill has been presented to the legislature by the State Board of Health, requiring that no part of the sewage of the new state-prison be discharged into the Concord River until it shall have been purified or cleansed in a satisfactory manner. A similar act, last year, was passed with reference to the sewage of the Danvers Hospital. A sewage-farm is already in operation at the new Worcester Insane Asylum, and preparations have been made to irrigate with the overflow from a large cess-pool at the prison for women in Sherborn, the solid deposit to be removed from time to time.

— We are glad to announce the appointment of Dr. A. D. Sinclair as visiting physician to the Boston Lying-In Hospital in the place of Dr. Tuck, who has lately resigned. Dr. Sinclair's peculiar fitness for this position makes his selection a happy one. He will bring to his duties an experience and ability which cannot fail to be of great benefit to the hospital.

— The attention of the profession in New England is called to the announcement of Parrish Hall, the medical home for opium habitués, in Brooklyn, New York. It is the only private remedial retreat of which we know, exclusively devoted to the welfare of such unfortunates, offering a quiet, retired home, and provided with facilities for treatment, attended so far, we have been informed, by satisfactory results.

— A hearing was held on the 10th instant by the State Board of Health in the case of *Petitioners v. Henry James, of Cambridge*. The defendant makes soap and renders house-grease where there are several dwelling-houses within a distance of two hundred feet. He had introduced covered kettles, and conducted the steam and gases from the process of rendering under his furnace fire. The board adjudged that the defendant's methods are not sufficient to prevent offensive odors, and he will be required to "cease and desist" by the first of March. The same decision was also given in the case of Messrs. Norton, in the same neighborhood, in whose case there was a hearing some weeks ago.

— As many cases of diphtheria of a virulent and epidemic form have lately occurred, the Imperial Sanitary Office at Berlin has directed the different federal governments to issue orders to doctors, under pain of punishment, to announce at the police station, within twenty-four hours, any cases in their jurisdiction.

— A letter to the *Medical Press and Circular* states that the effect of the Contagious Diseases Acts has been to increase the average age of prostitutes who are registered by driving the younger women into other modes of life. Hence, while they are warned off, the older women remain.

— Paris is receiving large consignments of lower jaws from Bulgaria, the value of which depends upon the soundness, regularity, and whiteness of the teeth, which are extracted after the arrival of the jaws in the city to which they are sent.

— Various communications to the journals make it apparent that the sulphate of cinchonidia — which costs eighty per cent. less than the quinia sulphate — is an anti-periodic, equally useful. A New York physician, however, claims that his patients are charged nearly the same price by the druggists.

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## BOSTON CITY HOSPITAL.

### SURGICAL CASES OF DR. G. W. GAY.

[REPORTED BY O. H. MARION, HOUSE SURGEON.]

CASE I. *Hæmatoma of Breast*. — Miss P. (colored), twenty-two years of age, came to the hospital July 27, 1877, with a tumor in her right mamma. She affirms that fourteen years ago, while playing on the ice, it gave way, and she fell through, receiving quite a severe blow on the right mamma; since that time she has had a hard mass just below the nipple. Seven months ago it began to increase slowly, and to become painful; is now about the size of a goose egg; no heat, and but little tenderness on pressure. It was circumscribed, firm, and movable independently of the muscle.

August 3d. Patient was etherized. Dr. Gay made an incision over and upon the tumor, exposing a dark mass, encysted; by gentle pressure the mass, resembling very much a kidney in appearance and texture, was squeezed out from its sac; the sac, being firmly adherent, was left to slough away. Suppuration was very slight through the whole process of healing.

August 28th. Patient discharged, well. The tumor was subjected to Dr. Bolles for microscopical examination, who reported it a hæmatoma. It should



be stated that the operation and dressings were done under Lister's method, which may account for the slight amount of suppuration.

CASE II. *Strangulated Inguinal Hernia ; Operation ; Death.* — J. O'N., aged sixty-eight, came to the hospital September 15, 1877, at three P. M., having sojourned for some time past in the charitable institutions of New York. He asserts that twenty years ago he was ruptured while lifting a heavy weight. Has always worn a truss, and has been able to return the intestine, whenever it came down, up to this date, when his efforts after an hour's trial failed. When the patient entered the hospital the hernia had been irreducible for four hours. No vomiting nor much pain. Bowels constipated for three days. The scrotal tumor was hard and tense, about the size of a small cocoa-nut. Pulse pretty fair, but "beady," owing to the atheromatous condition of the arteries. No great effort was made to reduce the hernia, from the fact that it had been worked over for an hour previous to entering the hospital. Patient put to bed, ice-bags applied to irreducible mass, and opium given *pro re natâ*. Nine P. M. Patient had vomited several times, otherwise quite comfortable; hernia not reduced.

September 16th, twelve o'clock M. Patient etherized. Dr. Gay tried taxis without success; he then aspirated, and drew off from the sac about one ounce of *bloody serum*, in which a soft coagulum formed. Taxis was again tried, and again failed. An incision about two inches long was made through the tissues down to the sac; the constricting fibres of the external ring were cut. Taxis again failed. The sac was opened and the bowel exposed; it was of a dark maroon color, did not extend into the scrotum, but filled the inguinal canal. Constriction was found at the internal ring, was divided, and the intestine, which was slightly adherent to the sac, returned with some difficulty. The sac was adherent to the canal, and contained several nodular enlargements of thickened and adherent omentum. Patient rallied well from ether, but refused to take nourishment or stimulus by the mouth, was very fractious, and succeeded once in removing the dressing, so that the bowel came down; it was replaced, and subcutaneous injection of morphine and a brandy enema were given. Four P. M. Patient began to be cyanotic and unconscious; death ensued an hour later, five hours after the operation. On examination after death, no peritonitis was found. The stricture had been entirely relieved, and the bowel was in its normal position.

CASE III. *Separation of Left Sacro-Iliac Synchondrosis ; Fracture of the Left Transverse Processes of the three last Lumbar Vertebrae ; Profuse Suppuration ; Death.* — W. S., sixteen years of age, was admitted to the hospital July 11, 1877, having fallen from a team, the wheel passing over his body in the region of the pelvis, just how patient was unable to state. On examination, slight mobility with crepitus was detected only once; some tenderness over lower portion of back, a large ecchymotic spot over left trochanter major, and hyperæsthesia of adjacent parts, with considerable pain on motion of limbs. Patient catheterized, and slightly bloody urine drawn from bladder. With the exception of some intestinal disturbance and retention of urine, patient went on very well, apparently improving up to July 27th, when he was seized with severe cramps in left thigh simulating sciatica; these continued several days.

August 9th. Swelling and tenderness over left groin.

August 12th. Pain and tenderness more intense, with considerable fullness above and below Poupart's ligament; at this date patient's temperature commenced to rise, and increased up to August 19th, when it was  $104.8^{\circ}$ , patient slightly wandering in mind and at times drowsy. From this last date the temperature began to subside, reaching the normal point August 25th, when patient appeared much brighter and better, having had no chills accompanying the fever. Poultice has been continuous to groin. Considerable œdema of foot and leg.

September 3d. Œdema of leg subsiding; patient desired to sit up, and was permitted to do so for a little while at a time.

September 14th. Decided fullness in inguinal region, with apparent fluctuation. Dr. Gay aspirated with negative results, except a little clotted blood on the needle; poultice continued.

September 20th. Moves both legs without pain; feels much better.

September 30th. Ungt. iodinii applied instead of poultice.

October 8th. Swelling in left inguinal region quite prominent.

October 13th. Fluctuation well marked on surface and per rectum; parts quite soft.

October 17th. Dr. Gay being absent from the hospital on account of sickness, Dr. Ingalls aspirated the patient, introducing the needle about three inches above superior spine of ilium, and towards median line, removing eleven ounces of *very dark fluid of most offensive odor*. The following day, the patient being etherized, a free incision was made just below the anterior superior spine of ilium, and twenty-seven ounces of the same characteristic fluid of the previous day evacuated.

November 3d. Up to this date there has been a copious discharge of the same offensive fluid; patient gradually failing. This morning an opening presented itself near the junction of the sacrum and ilium, left side, through which flowed large quantities of very foul fluid; the stench was almost unbearable. Patient failed rapidly, and died November 7, 1877.

*Autopsy*, eight hours after death. Subject was extremely emaciated. Despite the utmost care, extensive bed-sores exposed the greater portion of sacrum, a part of the iliac crests, and spinous processes of several vertebræ. Pericardium very much distended, containing five ounces of straw-colored fluid. Left lung compressed, owing to distention of pericardium. Right lung bound down by old adhesions; otherwise normal. Left kidney bound down by firm adhesions; removed from its sac it was pale and small; the cortical substance was very much diminished. Beneath the fascia which covers in the quadratus lumborum, psoas, and iliacus muscles on the left side, pus was burrowing in every direction, from around the kidney down the sheath of the muscles to below Poupart's ligament, and down both sides of rectum. The psoas, iliacus, and quadratus of left side were in a dark sloughing condition. The transverse processes of the three last lumbar vertebræ of left side were completely separated. There was a partial separation of left sacro-iliac synchondrosis. The greater portion of the left ilium was completely denuded, undergoing a process of decay. The bladder and rectum were not injured.



## LETTER FROM DR. SAYRE.

[*Spinal Disease and Spinal Curvature.*]

MR. EDITOR, — In a review of my book on Spinal Disease and Spinal Curvature, their Treatment by Suspension and by the Use of the Plaster-of-Paris Bandage, by B. B., in your most valuable JOURNAL of January 3, 1878, I find some observations that call for a passing comment.

In speaking of caries of the spine and the treatment which I have recommended, the reviewer says, "The principle upon which this device is founded is undoubtedly the true one, namely, that upon which we act when treating a fractured bone. The diseased spine should be kept immovable, and it should be relieved of all superincumbent weight." This is perfectly true and in exact accordance with my teaching, but he immediately follows with the most extraordinarily contradictory sentence, namely, "That it will supplant all other treatment, and that it is applicable to every case of caries of the spine, and in all its stages, surgeons who have experienced or have witnessed the remarkable results of absolute rest will be slow to believe."

If the *principle* of treatment, as he admits, is *correct*, why is it not applicable in *all* cases where it can be applied? I can see no reason why any patient should be deprived of the benefits of a plan of treatment, the principle of which is admitted to be correct.

The absolute rest in the recumbent posture of which he speaks, while it removes the superincumbent weight, yet unless *combined with extension*, to overcome reflex muscular contractions, will not prevent interstitial absorption of the bodies of the vertebræ; and the patients often recover with more or less deformity, even when they have been kept in the recumbent posture for years, and under the care of the best medical advice. I remember the case of Miss W., of Boston, which occurs to me at this moment, but I have seen many others.

If the diseased portion of the spine can be relieved from undue pressure by proper extension, and the parts kept *absolutely immovable* by the proper application of a plaster-of-Paris jacket, which at the same time allows free exercise in the open air, I contend that all cases of spondilitis where it is applicable should have the benefit of this plan of treatment until a better one is devised, and that to confine such cases to a horizontal position for many months, it may be for years, is highly reprehensible, and should be discountenanced.

The portion of my book referring to rotary-lateral curvature seems to be entirely misunderstood by my reviewer, as any one can see by reading the work. He has not read it with care, or, if so, has certainly misunderstood it. He represents me as having recommended the same treatment in both affections, whereas I have strenuously endeavored to do directly the opposite.

My reviewer says, "We can hardly imagine any combination of circumstances which would induce us to incase a young, growing girl, in the early stages of lateral curvature, in plaster-of-Paris." This sentence would lead the reader to infer that my work did advise such practice, when I distinctly

state on page 98, "In slight cases, and in the early stages of lateral deviation of the spine, self-suspension, if regularly practiced, will *alone* suffice to bring about a cure." It is only in the cases of confirmed scoliosis that I have advised the use of the plaster-jacket, which is to be applied while the patient is self-suspended, so as to obtain all the improvement in position possible, and which, fitting with accuracy, gives the patient better support than any instrument yet devised, thus enabling him to take the active exercise which is so essential to his restoration. The practical test of its value is in the testimony of the hundreds who have used it, and I feel quite confident that if B. B. will give it a fair trial he will be as strong an advocate of the treatment as I am.

Thanking him most cordially for bringing it before the profession, and only wishing to draw his attention to some points which he has inadvertently overlooked, I am, respectfully,

LEWIS A. SAYRE.

#### COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending January 5, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean of ten Years, '68-77.
New York.	1,093,171	503	23.92	24.32	28.71
Philadelphia.	876,118	312	18.46	18.80	21.54
Brooklyn.	549,438	200	18.93	21.51	25.50
Chicago.	460,000	111	12.55	17.83	22.39
Boston.	375,476	146	20.22	20.10	24.34
Providence.	104,500	58	28.85	18.81	19.20
Lowell.	55,798	12	11.18	19.09	22.50
Worcester.	54,937	20	18.94	21.07	22.30
Cambridge.	53,547	30	29.13	18.69	20.83
Fall River.	53,207	18	17.59	21.35	24.96
Lynn.	35,528	6	8.78	20.42	19.67
Springfield.	33,981	6	9.19	16.04	19.77
Salem.	27,140	9	17.24	20.05	21.12

OBSTETRICAL SOCIETY. — At the annual meeting of the Obstetrical Society of Boston, held January 12th, the following officers were elected: President, W. C. B. Fildfield. Vice-Presidents, C. D. Homans, S. L. Abbot. Treasurer, W. L. Richardson. Recording Secretary, C. W. Swan. Corresponding Secretary, H. Curtis. Prudential Committee, William Ingalls, A. D. Sinclair, F. Minot, C. D. Homans. Committee on Publication, B. E. Cotting, F. W. Draper, G. J. Arnold.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — At a meeting of the society to be held on Monday evening next, at eight o'clock, at its rooms, 36 Temple Place, Dr. Porter will read a paper upon Cases of Plastic Surgery, with exhibition of patients and photographs.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT. — At the annual meeting held on Monday evening, Dr. E. G. Cutler was elected Treasurer and Secretary, in place of Dr. Greenough, who had served seven years, and declined reelection.

BOOKS AND PAMPHLETS RECEIVED. — The Science and Art of Surgery, being a Treatise on Surgical Injuries, Disease, and Operations. By John Eric Erichsen, F. R. S., F. R. C. S. Revised by the Author from the Seventh and Enlarged English Edition. Philadelphia: Henry C. Lea. (A. Williams & Co.)



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## LECTURES.

BELLEVUE HOSPITAL MEDICAL COLLEGE, NEW YORK: CLINICAL LECTURE  
BY EDWARD G. JANEWAY, M. D.,<sup>1</sup>

*Professor of Pathological Anatomy and Histology, and Diseases of the Nervous System.*

*Peri-Pachymeningitis.* — GENTLEMEN: The case of the young man whom I bring before you first, this morning, is one of considerable interest, because it illustrates quite a rare variety of disease. I will not attempt to go into the history minutely, but will merely give you a few prominent points in regard to it. The patient was taken ill about twenty-one months ago, and for the last year has been under treatment by my assistant. He was a dyer by occupation, and his hands being exposed sometimes to the action of irritating substances, he had first a severe inflammation of one of them. Shortly after that he seems to have had some sort of an inflammation seated at the back of the neck and between the shoulders. While suffering from this he was taken to the Roosevelt Hospital, where it was supposed that he had spinal meningitis, and during his stay in the hospital what was thought to be an abscess formed near the spine, though it was never opened. After he came under the care of my assistant there was noticed a swelling located about the rhomboideus muscles, and presently a piece of dead bone was discharged from this point. It was inferred that the latter had come from the scapula, as crepitus could be detected in that bone.

Now the point of interest is that at the time of this inflammatory trouble there was complete paralysis of motion and sensation upon one side of the body, except the face, affecting the upper and lower extremities in an equal degree. At the present time, however, he seems to have entirely recovered from this. You observe that he walks as well as you or I can, and he grasps my hand with a force which convinces me (which he indeed says is a fact) that the affected hand is now quite as strong as the other. It is stated that partial loss of sensation continued for a year in the lower extremity (not so long in the upper), and there was more or less loss of motion for a year in both. What, then, must have been the diagnosis? From such a hemiplegia

<sup>1</sup> Reported for the JOURNAL.

as has been noted here we would naturally look for some lesion in the opposite side of the brain. But in this particular case we must not fail to take into consideration the fact that there was an inflammation which probably affected the nerves of the spinal cord upon the side on which the hemiplegia occurred. If the inflammation were outside of the cord and involved the dura mater outside, it would certainly be exceedingly apt to produce paralysis both of motion and sensation on the same side on which it was situated, and hence from the history I think we are forced to the conclusion that this has been a case of peri-pachymeningitis.

But why should this be so? In the first place there was an abscess in the upper dorsal region, and afterwards a piece of dead bone came away. This fact shows that there must have been an extensive inflammatory process, and there can be little doubt that this inflammation spread down the dura mater, and so involved the spinal nerves upon the same side. You no doubt remember the case of tumor of the cord which I showed you last week, and in that, you will recall, motion was lost or impaired on one side, while sensation was affected on the other side. This is the rule in tumor of the cord, and it is one of the diagnostic marks of such growths as well as of spinal meningitis. The former is a rare disease, but in the case now before us we have even a still more uncommon one. The treatment has consisted principally of the application of electricity, in the form of both the constant and the galvanofaradic currents, and as the patient seems to have made a complete recovery the case is interesting on that account also.

*Progressive Muscular Atrophy.* — Some of you will perhaps remember the very marked case of progressive muscular atrophy to which I called your attention some little time ago at the college, in which the patient had become reduced to a living skeleton. He was thirty-five, and the affection had commenced twenty-three years before the time that I presented him to you; yet notwithstanding the steady though slow progress of the disease he had enjoyed pretty fair health, had been able to marry, and had had children. To-day I have two more cases of the same affection to show you. The first is that of a man in advanced life. He is sixty-two years of age, and was formerly a porter by occupation. He was accustomed to lift very heavy weights, and, as he tells me, used frequently to lift a great deal more than there was any necessity for doing, simply in order to make exhibitions of his strength, of which he was not a little proud. We have, then, a history of excessive muscular exertion, and this seems to have been the origin of the disorder in this case, since we cannot get any account of exposure to cold, or of any other circumstance at all likely to give rise to it. The disease commenced four years ago, and the first symptom noticed was pain in the shoulder, which is, as a rule, the starting-point of the atrophy.



Afterwards the hands, and then the legs, became affected. You will notice with what great difficulty the man walks up and down stairs.

The other patient is our friend "Jim," who has been accustomed for several years to show himself before the medical classes at the hospital. To judge from his powerful build and the extreme breadth of his shoulders, nature has evidently intended him for an Atlas or a Hercules; but this wasting disease which we are now considering has shorn him of his strength. Notice him now as he takes off his clothing. A casual observer might not, perhaps, suppose that there was anything wrong with him, but if you will watch him carefully you will see that there is a decided awkwardness about his movements. As he stands erect now, what strikes the eye at once is the peculiar attitude of the man, — the very great projection of the abdomen, the hollowing of the back, and the throwing back of the shoulders. This is due to the marked manner in which the abdominal muscles are affected by the atrophy, so that their action is completely overcome by that of the *erectores spinæ*. When he lifts his arms you observe how the shoulders seem to widen out, and this is due to the action of the *serratus magnus*. In this patient is shown in a very striking way the different extent to which the various muscles are affected by the disease. Notice, for instance, the vast contrast between the deltoid (which is fully developed) on the one hand, and the biceps and triceps (which are markedly atrophied) on the other. Again, the muscular development of the hand is very good, while that of the fore-arm is exceedingly poor. In flexing the arm you see that the biceps is assisted by the action of the *pronator radii teres*. When we examine the lower extremities we find great wasting here also, the extensors being involved to a much greater degree than the flexors. All this shows that the disease has attacked isolated and particular muscles and sets of muscles. In the other patient now before us, however, its march has been more general. In the latter case I observe also some vibratory tremor. Here all the muscles of the fore-arm are particularly wasted, on one side a little more than on the other; and the *sterno-cleido-mastoid* is so small as to make it difficult to feel, being about the size of a small pipe-stem. In both cases the loss of power is proportionate to the loss of muscular substance. In the first patient, in contrast to the case of "Jim," the muscles on the posterior aspect of the lower extremities are better than those on the anterior, and this is very well shown by the much greater facility with which he rises from a sitting posture than the other. You can see the difference as both the men get up from their chairs at the same time.

Now let us see how these wasted muscles react with electricity, and it will be sufficient for our purpose to employ it only in the case of the first patient. You see that the *pectoralis major* reacts very well, while

the triceps, which is more atrophied, does so but poorly. The muscles of the leg react also, though but feebly, so we find that even in the most atrophied parts the muscles always respond to a greater or less extent to electrical excitation.

These two cases, taken in connection with the one which I showed you at the college, illustrate the disease and some of its variations in a very admirable manner. In the second patient whom we have seen to-day the muscular atrophy seems to have resulted from over-exertion and exposure to cold. The man was accustomed to work in a rolling-mill, and after violent exercise in a very high temperature he would go out into the cold air and lie down on the grass for the purpose of "cooling off." The disease commenced twelve years ago, and the first thing that he noticed was a weakness about the back, while the first muscle involved was the biceps. This, then, was an exception to the great majority of cases, in which it commences in the muscles about the shoulder, as in the first case. Nature, however, always begs leave to be excused from dogmatism, and also to differ from the books occasionally. Another exception to the general rule about one of these cases is that in the first patient the atrophy is more marked in the fore-arms than in the hands. The slow progress of the disease is well shown by the fact that in one of the cases it has lasted four years and in the other twelve, while in the one you saw at the college it commenced twenty-three years ago. In the first case there has been decided improvement of late under the treatment employed (the persistent use of electricity), so that the patient is considerably better than he was a year ago. In the second case the disease seems to have been arrested, and remains stationary. The man has been under my observation for at least five years, and during that time it has neither progressed nor has there been any improvement. In the third case (the one that has lasted twenty-three years), on the other hand, the affection has been from the first, and still continues, gradually progressive.

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## ON STRAPPING THE AFFECTED SIDE IN CASES OF ACUTE PLEURITIS.<sup>1</sup>

BY J. C. GLEASON, M. D. HARV.

FOR some time past I have been in the habit of strapping the affected side, so as to limit motion and secure the greatest possible rest in all cases of acute pleurisy, pleuro-pneumonia, etc., in which severe pain, resulting from the respiratory movements, comes in as a leading symptom.

To illustrate this practice I will briefly describe two cases, giving only such principal facts as are necessary for my present purpose:—

<sup>1</sup> Read before the Plymouth District Medical Society, October 10, 1877.



CASE I. August 11, 1876. Called to A. P., male, aged thirty years, who, after exposure, was seized with a chill, followed by decided febrile reaction and a sharp lancinating pain in the right side, greatly increased by each act of inspiration.

By the use of morphia hypodermically, carried to its full therapeutical action and combined with the internal administration of tr. aconite and hot fomentations externally, failing to get my patient sufficiently easy to allow me to leave, I procured a roll of adhesive plaster, from which I cut strips one and a half inches wide, and of sufficient length to reach from spine to sternum. These I began to apply as in case of fractured rib, firmly, so as to control largely the motion of the side in question. My patient was immediately relieved, and he did not subsequently have any pain that a renewal of the strapping from time to time did not alleviate, provided the respiratory movements were controlled. In a few days the patient was out-of-doors, and he convalesced rapidly,—in fact, in much less time than I usually have observed in like cases.

CASE II. On the 2d of April, 1877, I made my first visit to D. H., male, aged twenty-seven years, whose account was that, after working one half day in a basement of a box factory, where he stood in cold water to the depth of eight or ten inches, he was in a few hours taken quite ill with chills, pain in the back and limbs, fever, and prostration.

On the following day he had pains in the chest, severe, dry cough, quick pulse, and a temperature of  $103^{\circ}$ . Third day: rusty sputa, moderate dullness of lower lobe of right lung, decided pleuritic pain; very ill, with very rapid and short respirations, amounting almost to a mere panting in his efforts to get a sufficient supply of air with the least possible motion of the chest.

Here, as in Case I., not relieving my patient by anodynes, sedatives, and hot applications, I strapped the affected side as I had done in other cases, with the result of enabling him to breathe with comparative comfort and to get sleep.

These straps I kept on for ten or twelve days, renewing the application of the same when they became loose, or whenever there was any increase of pain, which was sure to occur if the motion of the side was not controlled.

Without going further into details it suffices for my present purpose to say that from this time both my patient's spirits and symptoms began to improve, and with this simple procedure and adequate support he at length convalesced favorably.

From cases like these I have been led to look upon this simple measure, which I do not find described in the usual text-books, as a most valuable means of treatment, perhaps not to the disuse of opium, but certainly a positive aid to that drug, both of which conduce, as I believe, rationally, to cure.

The rest that may be secured to the inflamed surfaces and tissues by the combined effect of opium and strapping is more perfect, I think, than can be secured otherwise. Besides, by thus early and decidedly controlling the motion of respiration upon the affected side, I think that effusion is much less likely to occur, for if we save the friction of the roughened pleural surfaces, our case is likely to be relieved by an arrest of the inflammatory process before it arrive at the stage of effusion. In cases unmodified by art the effusion is the means for relieving the friction and the pain, and is brought about only by the full development of the inflammatory process.

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### A FIBRO-CYSTIC TUMOR OF THE UTERUS CURED BY ERGOT.

BY H. A. DEAN, M. D., ATHOL, MASS.

THE following case is reported, not for any originality of treatment, but to substantiate the results obtained by others in the use of ergot, and to encourage its further trial by the profession in similar cases.

Mrs. G. K., age forty-two, first had uterine trouble in June, 1868. A long ride and tramp for berries were followed by a severe uterine hæmorrhage, and menorrhagia was the rule at each catamenial period for several months following. She first noticed a tumor of the size of a teacup in May, 1869, but received no treatment till the next September. She has been for most of the time since under treatment, principally by irregular practitioners. All this time the tumor had gradually increased in size, until it gave her the appearance of a woman at the full term of pregnancy.

I was first called to the case January 23, 1877; found her suffering from poor circulation, difficult breathing, numbness of extremities, feeble pulse, and general œdema, and ordered hydrarg. chlorid. mit., fifteen grains, to be followed by a saline cathartic in the morning. This treatment gave general relief. The patient at first objected to any direct treatment for the tumor, saying it always made her worse, but she finally consented, about the middle of March, to take the ergot in one-half-drachm doses three times daily.

The 27th of March, my friend Dr. H. T. Hawks, of New York city, saw the case. He made a thorough examination, exploring by aspirating needle and by uterine sound. He diagnosticated a very large fibro-cystic tumor. The cavity of the uterus measured seven inches in length, bearing far to the left. The aspirator produced but little fluid. His prognosis was unfavorable, but he advised an increased dose of the ergot, giving drachm doses once in four hours.

The 3d of April she commenced flowing profusely, was in great pain,



delirious, with quick pulse and high fever. I found general inflammation of uterus and bowels. The ergot nauseated her, so it was ordered by enema. Squibb's tr. opii deod. and hot fomentations over the bowels were prescribed. The menorrhagia, delirium, and fever lasted for two weeks, with no abatement. The patient became emaciated and extremely weak, and the end seemed but a few days off. The third week of fever found her mind becoming clearer, fever abating from 103° to 100°, pulse falling from 130 to 110, and the uterine discharge free from blood, but more excessive than before, and occasionally small pieces of fibrous tissue came away with it. These increased in size and frequency, some days several pieces the size of a hen's egg passing off, until the whole mass had disappeared. A thin offensive discharge kept up for a few weeks, but soon ceased altogether, and in October the menses, absent since April, returned. The patient is in full flesh, natural figure, and, as she expresses it, "never felt better in her life." The only treatment not mentioned above was the administration of infusion of digitalis, with general supporting tonic remedies, iron, quinine, porter, etc.

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## RECENT PROGRESS IN THE TREATMENT OF CHILDREN'S DISEASES.<sup>1</sup>

BY D. H. HAYDEN, M. D.

*Diphtheria and Croup.*<sup>2</sup>—From the author's historico-geographic account of diphtheria the following is a *résumé* of conclusions arrived at: Diphtheria belongs to the oldest of diseases to which a people are subject. Accounts of epidemics of this disease date back to the sixteenth century. Its disappearance from time to time, and occasionally, too, for a longer series of years than has been observed with other diseases, is one of its peculiarities. After such a disappearance at the beginning of this century it has again, since 1820, extended from France into other countries. It invades all portions of the globe, irrespective of the climate, elevation above the sea, or the character of the soil. There are numerous facts that speak for its indigenous character. It has often extended itself on the sea; and in inland countries its progress is not limited to the lines of travel. Sporadic cases, generally of severe character, always precede an epidemic of the disease. Whenever it once enters a large city it installs itself there permanently. In the sixteenth century it reigned epidemically for from thirty to forty years.

The second part of the article is devoted to the ætiology of the dis-

<sup>1</sup> Concluded from page 79.

<sup>2</sup> F. Seitz, Berlin, 1877, Grieben, 8vo, 516 pages. Centralblatt für die medicinischen Wissenschaften, November 17, 1877, No. 46.

ease, with the following conclusions: Neither temperature nor soil has any influence upon the extension or the violence of diphtheria. It can appear spontaneously, but is, however, conveyable by the air. Accumulation of products of the decomposition of organic substances and bad ventilation seem to favor its development. Having once undergone the disease does not bring with it immunity from a second attack, as is the case with other contagious diseases. On the contrary, there are individuals who possess a peculiar susceptibility, and have been frequently affected with it. During an epidemic of diphtheria a simple pharyngeal inflammation offers a soil favorable to this disease; and consequently in the middle latitudes we find it most prevalent at times of the year when sore throats are the most common. This would seem to corroborate the statement that the unknown germ of this disease attaches itself primarily to the mucous membrane of the pharynx. The course and sequelæ of diphtheria speak also for its starting originally from the pharynx and subsequently affecting the whole organismus.

The author distinguishes a light form limited to the pharynx ("diphtheria of the pharynx"), a severe form dangerous to life from extension into the air passages ("diphtheritic croup"), and a form accompanied with grave systemic infection ("septic and gangrenous diphtheria"). These forms, their sequelæ and complications, are described at length, as well as the pathological anatomy. With regard to certain points concerning which there is still much variance of opinion, the author expresses himself as follows: "It is possible that the bacteria, which are to be found in health on the mucous membrane of the pharynx, may play a rôle as carriers of the contagious matter. The disease, however, often makes its appearance upon the mucous membrane of the nose and of the larynx and on the surface of wounds of the skin. The false membrane of diphtheria consists of transformed epithelial cells and sloughed submucous cellular tissue, whereas in croup it is an exudation from the epithelium consisting of pus corpuscles and fibrine."

The prophylaxis of diphtheria requires more attention than has been heretofore given to it.

The important points of treatment are good nourishment and support of the strength by quinine, wine, and iron. None of the local remedies hitherto employed have the power of preventing the extension of the disease. Caustics are harmful.

The author, in conclusion, discusses the subject of genuine inflammatory croup, not dependent upon diphtheritic infection (laryngitis membranacea), and the accounts of the malignant disease of cattle (murrain), which presents many points of similarity to diphtheria.

*Thoughts relating to the Prognosis and Treatment of Diphtheria.*<sup>1</sup>—

<sup>1</sup> By J. Lewis Smith, M. D., Clinical Professor of Diseases of Children in Bellevue Hospital Medical College, New York. *American Journal of the Medical Sciences*, October, 1877.



Since the author's article upon diphtheria, which appeared in the *Diseases of Children*, third edition,<sup>1</sup> his experience, previously very large, has been enriched by one hundred and four cases of primary diphtheria, occurring either in private practice or seen by him in consultation, in addition to those observed during this time in the New York Foundling Asylum. These cases were all carefully recorded, and from these observations the author expresses his conviction that, in order to secure the best treatment, constitutional and local, the physician should accept the following propositions:—

(1.) The specific principle of diphtheria, in all probability, enters the blood, in ordinary cases, through the lungs, and after an incubative period, which varies from a few hours to seven or eight days, produces the symptoms which characterize the disease.

(2.) Facts do not justify the belief that the system can be protected by antiseptic or preservative medicines administered internally. A quantity of this kind of medicine introduced into the system, sufficient to preserve the blood and tissues from the action of the diphtheritic virus, would, there is every reason to think, be so large as to arrest molecular action, and therefore the functions of organs, and occasion death.

(3.) There is no known antidote for diphtheria in the sense in which quinia is an antidote for malarial diseases, and no more probability that such an antidote will be discovered than for scarlet fever or typhoid fever.

(4.) Diphtheria, like erysipelas, has no fixed duration. It may cease in two or three days or continue as many weeks, but the specific poison acts with more intensity in the commencement than subsequently, and its energy gradually abates. Hence, a diphtheritic inflammation which arises in the beginning of diphtheria, as laryngitis, is more severe and dangerous than when the malady has continued a few days.

(5.) The indication of treatment is to sustain the patient by the most nutritious diet, by tonics and stimulants, and to employ other measures, general and local, as adjuvants, to meet special indications which may arise. The rules of treatment appropriate for scarlet fever apply for the most part to diphtheria. Local treatment of the inflammations should be unirritating and designed to prevent putrefactive changes and septic poisoning. Irritating applications which produce pain lasting more than a few minutes, or which increase the area or degree of redness, are apt to do harm and to increase the extent and thickness of the pseudo-membrane.

The author expresses himself more decidedly against the so-called "bacterian theory" than in his previous article. The theory that micrococci or vegetable monads are the specific principle of diphtheria,

<sup>1</sup> Vide *JOURNAL*, February 3, 1876, page 130.

which suggests and justifies the antiseptic treatment, was promulgated to the profession by comparatively young men, who had seen less of diphtheria than many others, but had zealously used the microscope. Their opinion, based on microscopic examinations and experiments, plausible because having the appearance of scientific exactness, was widely received. Since, according to them, diphtheria is at first localized at the point upon the surface where the micrococci are received, this theory, so far as it was accepted, evidently led to the early energetic treatment of the local ailment and indifference as regarded constitutional measures. It is interesting to observe how the profession have been led by theories to consider the local treatment of diphtheria as of prime importance, especially during the first stage of the malady. Twenty or thirty years ago, when Trousseau was making his observations on diphtheria, and his views had great weight with the profession in both continents, it was believed that those blood diseases which were communicated by inoculation were at first local, even after the specific inflammation had appeared at the point of inoculation. Syphilis, for example, could be cured, it was thought, by proper applications to the specific eruption, if made within a certain number of days, and before the poison had entered the blood. In the same way it was believed that diphtheria was commonly received by inoculation, as it confessedly sometimes is, and could be cured by early applied local measures. Hence Trousseau recommended to attack the pseudomembrane with what he designated "savage energy." After a time it began to be believed that the acute infectious diseases were already constitutional, although contracted by inoculation, when the specific eruption or lesion had appeared upon the surface, and that therefore no local treatment could prevent blood contamination, since it was already present. Now when this opinion was received generally by the profession, and diphtheria began to be regarded as a constitutional malady in its inception, as much as scarlet fever or measles, the promulgation of the bacterian theory exerted a retrograde influence, so that it seemed for a time as if the old mode of treatment of the age of Bretonneau and Trousseau would be restored. At this time there appeared in our language the ponderous volumes of Ziemssen's *Cyclopædia*, containing the cream of German medical literature; and as German physicists are most patient and exhaustive investigators, these volumes occupied the centres of our private libraries, and were pointed out as the means which would be likely to elevate the profession of the country to a higher standard of medical knowledge. The treatise on diphtheria contained in this *Cyclopædia*, the longest and most minute of any in the English language, was eagerly sought for and read, and an immense amount of harm done. The writer of this treatise is fully committed to the bacterian theory, and the section relating to treatment begins thus: "In



diphtheria we have to deal first with an infection which is localized, and afterwards with a general disease resulting from this, out of which may ultimately be developed still a later affection of various organs ;” and he discusses first the local treatment, as of paramount importance, and secondly the general treatment. It was a great misfortune that a treatise like that by Sanné had not appeared in the place of the one published. But the mischief was done : the brush and inhalations were made the potent instruments of cure, and constitutional remedies held the second place, and were believed to be unnecessary except when the local treatment had failed to destroy the micrococci, and the second stage, or that of general infection, had arrived. For a time this theory has had its influence on practice ; but unpleasant experiences have taught and are teaching physicians that local measures, however early and perseveringly applied, do not protect the system from the diphtheritic poison, do not prevent the occurrence of unmistakable symptoms of general infection in all cases of a grave type. Whatever the theory, experience gradually establishes the fact in the minds of all observing physicians, that constitutional treatment is the essential one in diphtheria, as it is in that other malady which, in the author’s opinion, is most nearly akin to it, namely, scarlet fever, except when the danger is located in the larynx. In addition to the wide difference of opinion as to the nature of diphtheria and its mode of commencement, the author explains the great discrepancy that exists in reference to the proper treatment of this disease as being chiefly due to the fact that statistics of its treatment afford very unreliable and often conflicting data by which to determine the proper therapeutic measures. Scarcely any other disease presents such a diversity in type as diphtheria ; from cases so mild that nearly all recover, whatever the measures employed, to those so severe that a large proportion die under the best possible treatment. And this difference in type may be observed in cases occurring at the same time in a great city like New York, or even in the cases which two physicians, practicing near each other, may be called upon to treat. Hence, one physician recommends with confidence a medicine or mode of treatment as eminently successful in his hands, which another physician, of equal experience, speaks disparagingly of.

The uncertainty of prognosis of which even physicians of ample experience complain is, no doubt, in great part due to the fact that diphtheria terminates fatally in several distinct ways. Hence, while the patient may be secure as regards the more manifest and common conditions of danger, so as to justify a favorable prognosis in the opinion of the physician who attends him, the fatal result may occur from some unseen and unsuspected cause.

The following are enumerated as the different ways in which diphtheria may terminate fatally : —

(1.) Diphtheritic blood poisoning.

(2.) Probably, also, from septic blood poisoning produced by absorption from the under surface of the decomposing pseudo-membrane. But it is difficult to distinguish the constitutional effects of sepsis from those produced by the diphtheritic poison. Septic poisoning is obviously most apt to occur in those cases in which the pseudo-membrane is extensive and deeply imbedded and its decomposition attended by an offensive effluvium. Cervical cellulitis and adenitis, which, when severe, cause very considerable swelling of the neck, appear to be often, if not usually, due to septic absorption from the faucial surface, the inflammation extending from the absorbents to the glands and connective tissue. Considerable tumefaction of the neck, therefore, is seldom found in diphtheria or scarlet fever without manifest symptoms of toxæmia, and is to be regarded as a sign of its presence.

(3.) Obstructive laryngitis.

(4.) Uræmia.

(5.) Sudden failure of the heart's action, either from the anæmia and general weakness from granulo-fatty degeneration of the muscular fibres of the heart, which is liable to ensue in all infectious diseases of a malignant type, or from ante-mortem heart clots.

(6.) Suddenly developed passive congestion and œdema of the lungs, probably due to feebleness of the heart's action or to paralysis of the respiratory muscles. Death has been known to take place apparently from this cause during the period of supposed convalescence, and when the visits of the physician had been discontinued.

Among the symptoms which render the prognosis unfavorable are: repugnance to food, vomiting, pallor of countenance, with progressive weakness and emaciation from the blood poisoning; a large amount of albumen, with casts in the urine, showing uræmia, to which the vomiting is sometimes, not always, attributable; a free discharge from the nostrils, showing that a considerable portion of the Schneiderian membrane is involved; hæmorrhage from the nostrils or fauces, and obstructed respiration. One, at least, of these symptoms has been present in most of the fatal cases which have fallen under the author's observation.

*Diphtheritis and Tracheotomy.*<sup>1</sup> — R. A. Krönlein contributes in this article many interesting practical facts connected with the treatment of diphtheria, based upon the results of five hundred and sixty-seven cases treated in Professor Langenbeck's wards between January 1, 1870, and July, 1876. Of the five hundred and sixty-seven cases, three hundred and seventy-seven terminated fatally, = 66.4 per cent. A glance at the figures shows that with every year the number of cases increased and the

<sup>1</sup> Langenbeck's Archiv, xxi. p. 253. Centralblatt für die medicinischen Wissenschaften, November 17, 1877, No. 46.



number of deaths diminished. The season of the year appeared to have some influence upon the extent of the epidemic; the smallest frequency was in the month of June, the greatest in October. Putting aside eight cases of adults between eighteen and forty-one years of age, we find that the frequency of the disease became gradually greater from one month upwards, reaching its greatest height at three years of age, continuing at this point up to four years and a half, and then decreasing, until at the age of fifteen or sixteen years there was no case. The younger the patient the greater the mortality. Tracheotomy was performed five hundred and four times, stenosis of the larynx being always regarded as the sole guide for the operation, without regard to the age of the patient or the character of the disease. Of these five hundred and four operations, three hundred and fifty-seven terminated fatally, = 70.8 per cent. Eighty-five of the operations were on infants under two years of age, of whom eleven recovered, and of these one was but seven months old. Twenty-eight of the cases had their origin in the hospital, and of these eighteen died. A detailed report is given of two hundred and forty-one cases, containing two hundred and ten tracheotomies. When the respiration does not become free immediately after the operation the prognosis is very unfavorable. In forty-six cases where this peculiarity was noticed forty-two died, 91.3 per cent. The cause of this is to be found in the existence of a lobular pneumonia or of a deeply extending croup of the bronchial mucous membrane. When during the operation casts of the branches of the bronchial tubes are coughed up, and the respiration becomes apparently perfectly free, the prognosis is, notwithstanding, unfavorable. The operation was performed even when the children were brought in apparently moribund. There were twenty-two children operated upon in this condition, with a mortality of 90.9. Of the total number operated upon, one hundred and fifty-four died, one hundred with symptoms of asphyxia, the others under symptoms of gradual prostration or of sudden collapse. As a cause of the gradual prostration the frequent occurrence of impediments to deglutition played a prominent part. These the author divides into two classes. In the great majority of cases this difficulty of swallowing takes place at the time of and is caused by the presence of the diphtheritic inflammation in the larynx and by the consequent rigidity through infiltration and exudation of the tissues which are involved in the act of swallowing. The cases that come on at a later period, after the complete healing of the local inflammatory processes, are much rarer, and are then due to a secondary diphtheritic paralysis of the laryngeal and pharyngeal muscles. In fifty cases the tracheotomy wounds took on diphtheritic action, and of these twenty-eight terminated fatally. The method of operation was, without exception, in the latter years, the "tracheotomia superior" of Bose, which

offered no insurmountable difficulties even when there existed a goitre. Numerous attempts to confine the diphtheritic process by means of local remedies did not give satisfactory results.

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## PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

F. B. GREENOUGH, M. D., SECRETARY.

NOVEMBER 26, 1877. *Croupous, Fibrous, or Pseudo-Membranous Bronchitis.* — DR. LYMAN showed a fibrous cast of the trachea and bronchial tubes down to their minute ramifications which had been thrown off by a child. This specimen came into his possession in September last with the following history: The child, male, aged three years, had a year ago catarrhal fever; never sick before; was left much debilitated by the fever. Three months since began to cough up every day these fibrinous casts. On several occasions two a day were expelled, and at one time a week elapsed without any. The casts have gradually become smaller, the earlier ones being as long again. As the size diminishes the child is gradually gaining strength. The expulsion of each cast is preceded by more or less severe asthmatic symptoms and followed by great exhaustion. No history of croup or pneumonia. These casts are rare in early childhood, most frequent between ten and thirty years, and are more often chronic than acute. Lebert found but seventeen of the acute form after a careful analysis of all cases known at the time of writing. Most of the cases are preceded for weeks, months, or years by repeated attacks of acute or chronic catarrh.

*Phthisis; Ulceration of the Larynx.* — DR. LYMAN reported the case. J. M., a native of Ireland, fifty-two years old, a tailor by occupation, entered the Boston City Hospital August 21, under the care of Dr. Draper. No family history of consumption was obtained. About seven months before entrance he began to complain of cough, which grew steadily worse, and was soon accompanied with muco-purulent expectoration. No night-sweats. Loss of flesh and strength. Sharp, fugitive pains in chest. No hæmoptysis. For six weeks has had huskiness of voice. Appetite good and bowels regular. Pulse 110.

August 22d. Physical examination showed dullness with other signs of consolidation in left lung, while at the apex of the right lung signs of a small cavity were noticed.

The patient was put on the most nourishing treatment, with a bottle of ale daily. Was unable to take cod-liver oil.

August 26th. Pharyngitis noticed. Aphonia continued, voice becoming more whispering. Expectoration also more plentiful. Patient seldom sitting up. Physical signs about the same as before.

From this time the patient slowly but steadily sank. The throat symptoms became more and more marked, the voice was almost lost, and the redness and thickening of the fauces more noticeable. Morphia by atomization, local application, insufflation, in forms of solution and powder, and in different combi-



nations was thought at times to alleviate the inflammation of his throat, but nothing gave any permanent relief. He died on the 17th of November.

At the autopsy the diagnosis was verified, both lungs being full of small cheesy nodules, a cavity being found at the top of the right lung. The larynx, of which the condition had given rise to the most noticeable symptom, was removed.

The mucous membrane generally was thickened and roughened. The vocal cords were almost wholly destroyed by ulceration, only traces of the white, pearly character being seen, this appearance, indeed, having wholly disappeared on the right side.

DR. BOWDITCH said that, in this connection he should like to speak of the effect of local treatment in certain cases of laryngeal trouble. A man had recently consulted him, having come from the country for that purpose, who had aphonia and such soreness of the throat that it was with the greatest difficulty that he was able to swallow. It was a case that formerly he should have looked upon as a very serious and almost hopeless one of laryngeal phthisis. He put him in Dr. Knight's hands, and now he speaks well and eats with relish. He asked Dr. Knight to give some account of the treatment which he had followed with such marked success.

DR. KNIGHT said that in this case the worst feature was the great difficulty of swallowing. An examination showed that this was due to perichondritis and ulceration of the edge of the epiglottis. The inflammation was reduced by constant application of powdered ice and showerings with a solution of carbolic acid, paregoric, etc., and the dusting of the parts with morphine and sugar. Counter-irritation was also of service, obtained by the use of ung. iodinii externally. By topical treatment he had succeeded in reducing the inflammatory process to such an extent that patients who previously had with difficulty been fed by teaspoonsful had been enabled to swallow without trouble. He mentioned an important fact to be remembered in making a diagnosis and prognosis in these cases, namely, that when ulceration of the larynx exists the pulmonary sounds are very apt to be masked. He stated that Waldenburg, of Berlin, had recommended in cases of arytenoid perichondritis passing an œsophageal bougie, and that it had been done with good results. The local use of strong applications, such as acids, tincture of iodine, etc., is liable to be productive of much harm.

DR. JACKSON said that, leaving out of the question cases due to the presence of tumors, ulcerations of the larynx were either tubercular or syphilitic. He said that he had frequently noticed the fact to which attention had been called by Dr. Knight, namely, the masking of the pulmonary sounds in cases where ulcerations of the larynx exist.

*Foreign Body imbedded in the Base of the Tongue.* — DR. KNIGHT showed a very minute sliver of a fish-bone which he had removed from a gentleman's throat. This was so small that it was with great difficulty discovered, but during phonation it was perceived imbedded at the base of the tongue and projecting into the right vallecula.

Schrötter reports a similar case, where, however, the foreign body was imbedded higher up in the base of the tongue, so much so that it projected

backwards over the epiglottis and reached the posterior wall of the pharynx, which it scratched (when the tongue was moved) enough to produce a hæmorrhage.

*Cerebral Tumors.* — DR. WEBBER reported the case and showed the specimen. He had first seen the patient, by the request of Dr. J. G. Blake, on November 6th. He was forty-four years old, a carpenter, and had always been well. Three years since he fell from his wagon, striking on the right side of his head. He had a chancre fifteen years before, with no secondary symptoms. Four or five months ago he had a little pain in his head, but not much discomfort. Two months ago, one morning before rising, he had twitching of the left eyelids and a slight twitching of the muscles of the left side of the face. He lay in bed in consequence of this till nine o'clock, and then went to his shop. There he had a severer spasm of the left side of the face and the left arm, and fell, losing his consciousness. The third day after, he had another similar attack, but less severe. In these the leg was not affected by spasm. The arm was nearly paralyzed, but partially recovered. He could walk. November 2d he had a slight spasm of the right arm and leg, and the next day a more severe spasm, after which the left arm was more paralyzed. On the day when seen by Dr. Webber, at five o'clock in the morning, he had had another spasm of the right side. After each of these attacks the right arm was somewhat weak, but the strength was soon recovered. At times he had headache and flushing of the face.

When seen, the left arm was entirely paralyzed; the left leg was nearly or quite so. No facial paralysis existed. There was diminution of sensibility in the left hand; two points being felt at three fourths of an inch on the right, only at one and a half inches on the left. The right arm and leg moved freely. The diagnosis made at this time was tumor of the brain. A single lesion did not seem to satisfy all the conditions of the case. Neither hæmorrhage nor embolism would begin thus with slight spasms, increasing in severity, yet the total paralysis of the left side would lead one to expect some destructive lesion. The apparently short time since the beginning of the disease was possibly one element in the case opposed to the diagnosis of tumor; yet tumors may grow to a considerable size without causing any symptoms. A tumor in each hemisphere — one on the right side in the corpus striatum or the corona radiata just above, and one on the left side near the cortex cerebri — it was thought would explain the symptoms.

The patient was received into the City Hospital. There he exhibited great emotional excitement, was very homesick, and after a few days was taken home. The emotional disturbance continued. He finally had an attack of vomiting, and died on the morning of November 23d.

The autopsy was made with the assistance of Dr. Leland. The convolutions were very much flattened. Over the whole convexity of the right hemisphere, most marked over the fissure of Rolando at the vertex, elsewhere in rather isolated patches, the pia mater was thickened, opaque, as was the case also over the left vertex in the vicinity of the fissure of Rolando and anteriorly. Just in front of the fissure of Rolando on the right and quite near the surface, the first incision cut into a sac holding about three fourths of an ounce



of yellowish serum. This sac was just above and internal to a tumor about one and a half inches in diameter. On the internal face of the left hemisphere in the longitudinal fissure, at the anterior part of the præcuneus, perhaps also extending anteriorly to it, was another tumor about one and a half inches in diameter. Both these were red and reddish yellow in their centres, and had a firm whitish periphery. There was no serum in the lateral ventricles. The brain substance was firm everywhere, even in the immediate vicinity of the tumors.

It must be acknowledged that after death and before the autopsy, on reviewing the symptoms, the rapid course of the disease, the great emotional disturbance, the slight amount of headache,—this not being at all a prominent symptom,—the death occurring suddenly after an attack of vomiting, the diagnosis of tumor was not perfectly clear; there was a possibility of a hæmorrhage. Yet the spasmodic attacks at the beginning should have been sufficient to establish the diagnosis of tumor, though a hæmorrhage might have been supposed to have taken place secondarily. But there was no hæmorrhage.

Microscopically, the tumors were composed of spindle cells, round cells, many nuclei, and scanty connective-tissue fibres and fat-drops. They were very vascular and quite soft, scarcely so consistent as healthy brain tissue.

The locality of the tumors was not exactly that supposed in the diagnosis as first made. It would seem now as though the tumors had developed rather slowly, and had caused only the slight headaches experienced so many months ago, and the prominent symptoms were not dependent upon the tumors so much as upon the meningitis. When that appeared, the irritation of the meningeal inflammation, or that of the tumor, exerted then upon a more irritable nervous structure, caused the spasms. The paralysis of the left side may well have been due to the tumor in the right hemisphere.

There was too much injury to the brain substance to give this case much value as a contribution to the study of cerebral localization; yet it is interesting to notice that the greatest amount of meningitis was over the central fissure and the ascending convolutions bordering thereon.

DECEMBER 10, 1877. *Colloid Cancer of the Intestine at the Ileo-Cæcal Valve.* — DR. TARBELL reported the case. The patient, a man aged fifty-nine, was first seen by him five months ago. He had always considered himself healthy, although for four or five years he had been occasionally troubled with a regurgitation of food, not nausea or vomiting, but, as it were, a spitting up of his food, mouthful by mouthful, until it seemed as though he had rejected all that had been swallowed. About a year ago he began to have attacks of pain which he designated as colic; they were not very severe, and lasted only a few minutes or even seconds. About three months before Dr. Tarbell first saw him he had an unusually severe attack, which was prolonged for nearly twenty-four hours. His bowels had been ordinarily regular, but for a year he had had attacks of diarrhœa, and on one or two occasions he suffered from marked constipation. He never had noticed anything peculiar in the form of the fæces.

Dr. Tarbell made his first visit to him on July 2, 1877, at which time he

was complaining of severe cutting or twisting pains in the abdomen, which seemed to him to start from the right side, near the anterior superior spinous process of the ilium. The abdomen was neither swollen nor tender, but the pains were preceded by a sudden distention of the intestines, the outline of which could be seen through the thin abdominal wall. There was no distinct or very evident tumor, but Dr. Tarbell thought that he could feel a small, hard mass, on deep pressure, half-way between the umbilicus and the right anterior superior spine of the ilium. Drs. Minot and Ellis saw the patient a few weeks later, in consultation, when the abdomen was more distended. No tumor could be detected, but the diagnosis of probable malignant disease was agreed to. Symptoms of marked obstruction soon appeared, with incessant vomiting for a day or two at a time. Then he would get some relief, when he would take nourishment. The dejections were very small, and occurred only at intervals of from five to ten days. The pulse was quite feeble, but never very quick. The temperature never rose above 100° until a short time before death. During the last two weeks of his life the vomiting was frequent, the matter vomited being very offensive. The abdomen was greatly distended and tympanitic, but there were no symptoms of peritonitis. Dr. Cutler, who made the autopsy, showed the specimen and gave the following report: —

The body was much emaciated, and scarcely any fat was seen on section. The thoracic viscera, aside from considerable œdema of the posterior portions of both lungs, were not remarkable. The small intestine was much distended with gas and semi-solid feces. The size was quite that of the large intestine when moderately full. A thin tongue of omentum was adherent to the internal abdominal ring, through which a small mass of it passed and nearly filled a small pouch, into which the index finger could be pushed with ease up to the first joint. There were old inflammatory spots on the mesentery, indicative of some previous incarceration of intestine. At the junction of the small and large intestines there was a nodular induration about half the size of a hen's egg. The appendix cæci could not be discovered. The surface of the induration was strewn with translucent cyst-like bodies, varying from the size of the head of a pin to nearly that of the first joint of the thumb. On cutting open the intestine a constriction was found in the centre of the induration which scarcely admitted the tip of the little finger; the mucous membrane was here the seat of an ulceration an inch in length, which in many places reached deep into the muscular coat or through it. Under the microscope, the growth consisted of a fibrous stroma, with distinct alveoli filled with a gelatinous mass and occasionally a few cells, either in the centre or on the wall of the alveolus. Infiltration of cancer had invaded the peritonæum overlying, and had attached the mass to the posterior abdominal wall. The muscular coat of the ileum was very much hypertrophied for a long distance above the stricture.

The other organs were not the seat of secondary deposit, and were not remarkable.

*Sacral Teratoma.* — DR. CABOT reported the case. The patient was a girl thirteen months old. At the time of birth the tumor was the size of a



fœtal head. Two days after birth it was tapped, and one half pint of sero-sanguineous fluid was withdrawn. An impulse was given to the stream by the cries of the child. After tapping, the size of the tumor was reduced about four fifths. The sac refilled, and three and a half months afterwards was as large as the head of a child a year old; it was then tapped a second time. This time the cries of the child did not affect the stream: one quart of fluid was withdrawn. The tumor was tapped a third time, when the child was eleven months old, and three pints of fluid were removed. After the tumor was tapped the child was restless, but never had convulsions. She has always been a perfectly healthy child. No opening between the tumor and the abdominal cavity could be made out after the fluid was withdrawn.

She was operated upon by Dr. Cabot. The child being etherized, the fluid was drawn off by an aspirator, in quantity three pints. It was tested for sugar, but none was found. An examination was made by the rectum, but no communication was discovered between the rectum and the cyst. An incision was made into the tumor, the solid portion was dissected out, the vessels were tied, and a sponge was placed in the wound. Pressure was applied by means of a dressing towel and bandage around the waist. During the afternoon the sponge was removed and the wound closed with sutures. The child vomited almost all the food taken, and slept most of the time for the first twelve hours after the operation. She had no convulsions at any time. On the following day a drainage tube was put into the cavity, and the wound was syringed out with carbolic acid solution. The child still vomited most of the milk taken. Valentine's extract was also given, but was vomited again. About five P. M. the child had a loose dejection looking like curds. She had two more loose dejections later in the evening, of the same character. About seven P. M. she had an enema of beef juice, brandy, and a fraction of a drop of laudanum, which was not retained. At 7.30 P. M. she was given one drop of laudanum by the mouth to quiet her struggles, and a few bits of ice to stop the retching. At nine P. M. she began to fail rapidly. Brandy in five-drop doses was given by the mouth at short intervals. She died about ten P. M.

DR. FITZ showed the specimen, stating that the fluid removed from the large cyst was of a pale yellow color, and contained a small membranous sediment. The specific gravity was 1004, and the reaction neutral. Albumen was present in abundance. The microscopic examination of the sediment showed a fine net-work of delicate fibrils, disappearing on the addition of acetic acid. Numerous round cells resembling lymph corpuscles were entangled in the meshes, and contained large, round, single or double nuclei. Pale spheroidal globules were occasionally found within the cells.

The solid portion of the tumor formed an irregularly lobulated mass as large as the fist and of a yellowish color. It contained several small cavities, filled either with a clear, watery fluid or with a homogeneous, transparent viscid substance resembling mucus, and giving, with acetic acid, the reaction of mucine. The cavities containing the latter were lined with ciliated epithelium. The bulk of the tumor was composed of a soft gray tissue, consisting of a granular and occasionally fibrillated substance, which became more granular on the addition of acetic acid. Round cells were sparsely present in this portion

of the tumor; also numerous blood-vessels, rare fibrous bundles, and single medullated nerve fibres. Small, glistening concretions and limited patches of yellow granular pigment were also observed. Other portions of the tumor contained dense fibrous tissue, nodules of white fat tissue, epidermoid cells, and fragments of bone.

The multiplicity of the tissues and their heterogeneous character indicate that the tumor belongs to the teratoid group, that to which the term "fœtus by inclusion" has commonly been applied.

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### THE INTERNATIONAL MEDICAL CONGRESS.<sup>1</sup>

It was a happy suggestion of the Philadelphia County Medical Society that led to the assembling of an International Medical Congress on the occasion of the American centenary anniversary. The completion of the first century of our national life, a century alike distinguished for its unprecedented political movements and the amazing advance of medical science, rendered it especially fitting that the epoch should be marked by appropriate celebration. An event of such national importance afforded, therefore, a rare opportunity for bringing together a body of representative medical men from all parts of the world whose position and learning would give weight and dignity to their deliberations, and at the same time for publicly recording the part our own countrymen have taken in the progress that has marked every department of medical learning during the era now closed.

It was unfortunate that the loss of time and the expense involved in a journey to America made it impossible to secure so large an attendance at the congress as would have been desirable. Of the four hundred and fifty delegates reported as present only about seventy were from beyond the limits of the United States. Fourteen foreign countries were, however, represented, including Australia and the remote islands of Japan.

The congress was called to order promptly by the president of the Centennial Medical Commission, Dr. Gross, on the 4th of September, 1876, and continued in session for six days, during which addresses were delivered upon topics of general interest, and papers were read and discussed before the several sections into which the congress was divided. These papers and addresses, together with each day's proceedings, are contained in a handsome, well-printed volume of 1143 pages, which is the subject of this brief notice.

The opening address of welcome by Dr. Gross, who was subsequently chosen president of the congress, was remarkably felicitous, with perhaps a shade too much of patriotic fervor for such a presence. The succeeding discourses, eleven in number, relate for the most part to the history of medical science in its various departments during the past century, particularly in the United States. That of Dr. Austin Flint is a well-written sketch of the progress of medicine since the Revolution, and the influences that have promoted it. He remarks especially upon the increase and practical character of our medical literature during the past quarter of a century, and the social position and wide public influence of the profession in this country.

<sup>1</sup> *Transactions of the International Medical Congress.* Philadelphia. 1877. Pp. 1143.



The address of Dr. H. I. Bowditch, of Boston, upon Hygiene and Preventive Medicine, gives a melancholy view of the state of sanitary science in the United States, but cheers us with the hope of brighter days.

Of the many distinguished names mentioned by Dr. Wormley, of Ohio, in his address on Medical Chemistry, we notice that, while he pays a tribute to Drs. Wells and Morton in connection with the history of anæsthesia, no allusion is vouchsafed to Dr. Charles T. Jackson, who was the first to note the anæsthetic properties of ether, and whose name should be forever associated, however remotely, with this greatest of modern discoveries. The address of Dr. Paul F. Eve, of Nashville, on Surgery, that of Dr. Toner, of Washington, on Medical Biography, and the admirable discourse of Dr. Parvin, of Indiana, on Obstetrics, reveal a host of names eminent in their respective departments; as do also the addresses of Dr. Yandell, of Kentucky, on Medical Literature, and of Dr. Chaillé, of the University of Louisiana, on Medical Jurisprudence. The latter is supplemented by a full and carefully prepared bibliography of medical jurisprudence. In the address of Dr. Woodward upon the scientific labors of the medical officers of the army, he gives some account of the progress towards completion of the great work upon the medical and surgical history of the late war, an undertaking far surpassing in magnitude any previous one of a similar character, and which, when finished, will result in the most important accession to the literature of military surgery that has yet appeared.

On the whole, this series of lectures leaves little to be said on the subjects of which they treat, and presents a record most creditable to the medical profession and to the country.

By far the larger portion of the volume is made up of papers read and discussed before the various sections to which were referred the following subjects: Medicine, Biology, Surgery, Dermatology and Syphilography, Obstetrics, Ophthalmology, Otology, Sanitary Science, and Mental Diseases. It would be impossible within the limits assigned us to enter into any review of these papers, many of which have already been noticed at length in a former number of this journal. It is sufficient to say that they are written with remarkable cleverness, and together complete a volume which is well worth a place in every medical library.

The papers of a more practical character read before the section on medicine, that may be especially noted, are those of Dr. J. J. Woodward, of the United States Army, on Typho-Malarial Fever; on the question, Are Diphtheritis and Pseudo-Membranous Croup Identical or Distinct Affections? by Dr. J. Lewis Smith, of New York; on the Influence of High Latitudes on the Progress of Phthisis, by Dr. Charles Denison, of Denver, Colorado; and on Alcohol in its Therapeutical Relations as a Food and as a Medicine, by Dr. Ezra M. Hunt, of New Jersey.

Among the valuable and instructive papers read before the section on biology we would call especial attention to that of Dr. Austin Flint, on the Excretory Function of the Liver.

Before the section on surgery the papers that deserve to be particularly noted are those on Antiseptic Surgery, by Dr. Hogden, of St. Louis, with re-

marks by Professor Lister, of Edinburgh; on the Causes and Geographical Distribution of Calculous Diseases, by Dr. C. H. Mastin, of Mobile, Ala.; on the Treatment of Aneurism, by Dr. W. H. Van Buren, of New York; on the Pathology and Treatment of Morbus Coxarius, by Dr. L. A. Sayre, of New York; and Remarks on the Treatment of Penetrating Wounds of the Abdomen, by Dr. L. A. Dugas, of Georgia.

The Variations in Type and in the Prevalence of Diseases of the Skin in Different Countries of Equal Civilization was the subject of an interesting paper read before the section on Dermatology, by Dr. J. C. White, of Boston, as was also one descriptive of the Peruvian affection called "verrugas," by Dr. George A. Ward, medical director of the Oroya railway.

Before this section were also read papers on the question as to the Unity or Duality of the Venereal Virus, by Dr. F. J. Bumstead, and on the Treatment of Syphilis, by Dr. E. L. Keyes, of New York; also on the Measures for the Prevention of Syphilis in Denmark, by Dr. S. Engelsted, of Copenhagen.

Interesting papers on the Management of Convulsions in Children, depending upon a High Temperature of the Body, by Dr. T. K. Holmes, of Chatham, Canada; on the Treatment of Fibroid Tumors of the Uterus, by Dr. W. L. Atlee, of Philadelphia; and on the Nature, Origin, and Prevention of Puerperal Fever, by Dr. W. T. Lusk, of New York, were read before the section on Obstetrics.

Before the section on Ophthalmology were able papers from Dr. H. W. Williams of Boston, Dr. H. Knapp of New York, Dr. E. Williams of Cincinnati, Dr. George C. Harlan of Philadelphia, Dr. Edward G. Loring Jr. of New York, and Dr. George T. Stevens of Albany.

Before that of Otology brief essays were read on the Importance of Treatment of Aural Diseases in their Early Stages, especially when arising from the Exanthemata, by Dr. A. H. Buck, of New York, and on the Best Modes of testing the Hearing of School Children, and of providing for the Instruction of partially Deaf Children, by Dr. Clarence J. Blake, of Boston.

Disease Germs were the subject of a paper by Dr. T. E. Satterthwaite, of New York, and a very valuable report on the Vital Statistics of Buenos Ayres was presented by Dr. G. Rawson, of Buenos Ayres.

On the whole, the results of the congress are remarkably satisfactory, and the published volume, although somewhat formidable by its bulk, contains much that is of positive scientific as well as historical value.

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#### LIMITED RESPONSIBILITY.

AN interesting case of limited responsibility, and a very creditable one to our tribunals, has just been decided before the supreme court in Boston. A young woman of less than ordinary intelligence for her station in life, with few advantages for education, and having been left without any friendly care after the age of sixteen, was seduced, under a promise of marriage, at the age of nineteen, and abandoned as soon as it was certain that she was pregnant. She worked from six o'clock in the morning until ten o'clock at night, often



lying awake after that time thinking of her misery. This she did up to the day of her confinement, which took place at the Chardon Street Home. She did not see any friendly or even familiar face while there. After her discharge she was left twenty minutes alone, — an opportunity which she took to strangle her infant and then fracture its skull with her fist. She went to her room, locked the body up in her trunk, and then calmly continued her former work with her old employer. She returned to her room at bed-time, found a young girl there to sleep with her, went to sleep without thinking of her infant, and got up the next morning, going to her work again without a thought of her child. The child was found during the day, a fact which she suspected from the slightly disturbed appearance of her employer, when she said to one of the girls in the same place, "I killed my baby, Jennie, and they have found it." In jail, awaiting trial, she was sometimes quite exhilarated, often indifferent, occasionally depressed, but never showing any love for her child or any real remorse for the deed.

A medical expert was asked to see her, who gave the opinion that there was limited responsibility, whereby the indictment was changed from murder in the second degree to manslaughter; and, therefore, she was sentenced for the comparatively short term of five years to the admirable reformatory prison for women at Sherborn. She was a simple, uneducated girl, — indeed in *A Woman's Thoughts about Women*, one of the most distinguished novelists of our day gives it as her opinion that it is the exceptionally good and not the bad girls that are seduced, — without advantages, left to herself during developing womanhood, abandoned to despair, very much exhausted from overwork and mental anxiety, and without a friend to help her at a time when morbid ideas and criminal impulses are not uncommon with women the most favorably situated. She was at times depressed, even so far as to make plans for suicide, and occasionally was exhilarated, before her confinement. She at no time had the natural mother's love for her child. It was argued that with her the moral feelings were distorted or overwhelmed, the criminal impulse preternaturally strong, and the self-control weakened, when the opportunity for the deed appeared. Even the horrible method of killing her infant, her indifference afterwards, and the absence of natural affection for it on her part seemed to the expert who was called additional evidence of her limited responsibility, although he was not prepared to call her really insane.

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#### MEDICAL NOTES.

— Dr. Calvin S. May has been appointed medical superintendent of the new insane asylum at Danvers. Dr. May has been assistant at Middletown, Connecticut, in one of the very few hospitals for the insane, in this country, where there is a special pathologist.

— Dr. J. P. Brown, first assistant physician at the Concord, N. H., Insane Asylum, has been appointed superintendent at Taunton, in place of Dr. Godding, who resigned to succeed Dr. Nichols in the District of Columbia Asylum.

— The Edinburgh Medical School is said, in spite of its severe loss in the removal of Mr. Lister and Matthews Duncan to London, and in the resigna-

tion of Sir Robert Christison, to have this year an unusually large number of students, nine hundred and twenty having matriculated.

— The University of Cambridge, England, which rarely gives honorary degrees to its own alumni, recently conferred upon Charles Darwin the degree of LL. D. Darwin is a graduate in arts of the University. Huxley, Tyndall, Ramsay, Parker, Garrod, Adams, Wilks, Burdon Sanderson, etc., were present on this occasion.

— The New York Committee for the Prevention of Licensed Prostitution are distributing a rather sensational pamphlet, published by a society for a similar object in England, directed to physicians and legislatures in this country, in order to prevent among our civil population that regulation and control of venereal diseases which have been applied there to certain places where soldiers of enforced celibacy are stationed. The pamphlet does not agree in all respects with the accounts which we get from official sources in England, and it is not always easy to reconcile the two, if we give both credit for accuracy and fairness. However, there is such slight disposition either in this country or in England to adopt the Continental method of wholesale licensing of prostitutes, especially after our lamentable failure in St. Louis, and after a consideration of the somewhat doubtful efficacy of all laws which appear to make prostitution generally safe, that it seems as if, in this case, a windmill were set up for the sake of knocking it down again.

— The Connecticut legislature, in 1874, passed an act authorizing the probate court, after a proper application to them, and upon the certificate of two respectable practicing physicians, to commit to an inebriate asylum, within the State, any habitual drunkard, dipsomaniac, or person so far addicted to the intemperate use of narcotics or stimulants as to have lost the power of self-control. The asylum may also receive voluntary patients, but they are to be under the same control of the managers as those committed by legal process. The Walnut Hill institution, at Hartford, was established under this law; land has been purchased for a suitable building, and in the mean time the directors have furnished a commodious house for temporary use. They appeal to the legislature and to the public for funds to assist them in extending the benefits of treatment to the many unfortunates who have lost money as well as physical health and self-control. Dr. T. D. Crothers, well known in this special branch of the profession, has been appointed superintendent. Many of the prominent men of Hartford have become interested as directors and otherwise, the legal power of control over the patients is greater than anywhere else in this country, and the institution promises to fill an important place in the treatment of inebriates and opium eaters.

— Gubler in his recent researches as to the causes of cretaceous degeneration of the arteries made the very interesting discovery that a principal cause lies in a vegetable diet, and thus explains the frequency of cretaceous arteries among the French rural population at the early age of forty. Further proof he finds in the fact that the Trappists, who live exclusively on vegetable food, very soon show arterial degeneration. In districts where chalky soils load the drinking-water with earthy salts, a vegetable diet acts more rapidly in affecting the arteries than in regions of siliceous formation. In the *Bulletin de la Société de Médecine*, etc., may be found M. Gubler's paper on this subject.



— A letter to the *Medical Times and Gazette* reports a prolonged case of pregnancy, the child having been born on the three hundred and twenty-fifth day.

— On Wednesday, December 19th, a fine statue of the late Dr. Graves, of Dublin, was unveiled by the Lord-Lieutenant of Ireland in the presence of a large and distinguished company. It has been placed in the King and Queen's College of Physicians.

— Billroth recently said: "To-day I have performed my one hundredth ovariectomy. What a large number this would have appeared only a few years ago! But how small beside the brilliant roll of Spencer Wells! The work he related to the British Medical Association excites our highest wonder and admiration."

— Quincke reports two successful cases of transfusion of human blood in pernicious anæmia.

— A tramp in Pennsylvania has recently inoculated numbers of individuals with syphilis. He made a vocation of tattooing, and during the process, in order to wet his needles, put them into his mouth, which was full of sores. Measures were taken to have the man arrested, and he freely acknowledged that he was in the tattooing business, but did not know that he had done any harm.

— The twenty-second annual report of the trustees of the Northampton Insane Asylum contains, as usual, much matter of general interest to the specialist and to the general practitioner. For the fourteen years of his superintendency of that asylum, and indeed for nearly forty years, Dr. Pliny Earle has used his opportunity of observing insanity in a manner to instruct the public and medical men in a way which, it is hoped, will soon become universal. There were only twenty-one days in the year in which there was not some social gathering of the patients, and the farm shows a considerable amount of labor done by them. It is an interesting fact that the percentage of suicides in the last nine years of the hospital's history is only one sixth as great as in the first nine years; one occurred in the tenth, or intermediate, year. This fact shows that the open-air treatment, so largely used by Dr. Earle, has no tendency to increase the risk of self-destruction on the part of the patients. There are some interesting remarks showing that the curability of insanity has often been rated too high; but Dr. Earle's treatment of this subject is well known through his essay read last year before the New England Psychological Association. He thinks it best to look the facts in the face; and these facts, quoted from Dr. Mitchell, seem to be that "in round numbers, of ten persons attacked by insanity five recover and five die. Of the five who recover, not more than two remain well during the rest of their lives; the other three sustain subsequent attacks, during which at least two of them die."

— Dr. Sawyer, in a paper on Affections of the Nipple and Breast, in the *Chicago Medical Journal* for December, says: "Dr. M. O. Jones, of this city, told me that in a case in which the breast threatened suppuration he thought the affected part had not been entirely emptied. He then sought for an orifice in the nipple which corresponded to the affected lobe, and, passing a small probe into the duct, overcame the obstruction. Subsequent nursing caused

the disappearance of the threatened abscess. Perhaps, with the aid of a lens to find the orifice, this original procedure of Dr. Jones might often be made useful."

— The Germans have proposed a law forbidding druggists to repeat any prescription which contains strong remedies, — as drastics, emmenagogues, sedatives, etc., — unless the recipe be countersigned by the physician who originally issued it. It is thought that this law will prevent the conversion of a useful prescription into an heirloom.

— Spencer Wells, in a paper (*British Medical Journal* for December 15) entitled 'Twenty Years' Work in the Samaritan Hospital, shows the increasing success of his operations for ovariectomy by the following figures : —

First	five	years,	30	cases,	21	recoveries,	9	deaths.
Second	"	"	82	"	61	"	21	"
Third	"	"	132	"	96	"	36	"
Fourth	"	"	159	"	126	"	33	"

— The *Examiner* relates a death which occurred in Ireland, as the result of hæmorrhage due to a puncture made in the aorta by a common sewing-needle which had been accidentally swallowed. The stomach was distended by a large coagulum. The needle, quite rusty, was found partly in the aorta and partly in the œsophagus.

— The choice of the second professor in ordinary of obstetrics and gynæcology, in Berlin, oscillates between Winckel, of Dresden, and Gusserow, of Strasburg.

— The *Medical Record*, in very sharp terms, criticises prominent medical men who allow their names to appear in connection with "the very objectionable and shameful parade, in the daily papers, of medical certificates indorsing certain mineral waters."

— Dublin, Ireland, lately shows a death-rate of thirty-one per thousand, the highest of any large town in the United Kingdom.

— The *Canada Medical Record* mentions that Dr. Craig recommends a twenty-grain solution of chlorate hydrate for the painless removal of warts.

— Dr. Rivière, in the *Gazette des Hôpitaux*, reports that he has successfully treated fifteen cases of hæmorrhoids with podophyllin. Even chronic hæmorrhoids, which demanded operation, yielded to this treatment. The only objection was the necessity for the daily use of the resin. Some patients, however, were able for a long time to lay the remedy aside. Others were entirely cured.

— In the *Lyon Médical* for February, 1877, Dr. Gellé describes a new sign of respiration in the new-born child. When the child is born dead, the tympanic cavity will be found full of a gelatinous substance, and consequently in foetal condition. When the child is normally born and breathes, the cavity becomes filled with air *viâ* the Fallopian tube, and the gelatiniform matter, which is due to a sort of œdematous development of the mucous membrane, disappears by a shrinking of the membrane. When artificial respiration has been performed, in the tympanic cavities or in one of them is found a sanguinolent fluid showing the presence of air, but the foetal conditions are not entirely changed.



## BOSTON CITY HOSPITAL.

## SURGICAL CASES.

[REPORTED BY GEORGE W. GAY, M. D.]

CASE I. J. F., aged forty, intemperate, entered the hospital under Dr. Ingalls's care June 24, 1877. He had fallen down-stairs and received a compound fracture of the left femur at the middle third. On introducing the finger into the wound it came in contact with a very oblique fracture, the fragments overriding. Eversion; shortening of an inch and a half.

The wound was closed with the compound tincture of benzoin, and extension was applied to the limb.

A violent attack of delirium tremens developed the next day, which lasted for over a week, and during this time the patient tore off his dressings on several occasions. Nevertheless the external wound was closed in sixteen days, and he seemed to be doing well. At the end of two months the patient died of a rapidly developed empyema. At the autopsy the fragments of the femur were found joined by a soft, ligamentous substance, but no bony union existed.

CASE II. William S. C., aged thirty-six years, steam-fitter, fell about nine feet from some steps upon which he was at work, striking his right foot on a board, and then on the ground. When he entered the hospital, soon after the accident, June 29, 1877, Dr. Ingalls found a compound fracture of the right tibia and fibula at the middle and lower thirds. The fragments were felt by the finger in the wound.

The primary treatment of the wound was by the use of the tincture of benzoin, and in seven weeks it was so nearly healed that a silicate-of-soda bandage was applied and allowed to remain a fortnight, when the wound was entirely closed and union in the bone was pretty firm. He was discharged well, September 1, 1877, sixty-four days after the injury was received.

CASE III. John L., laborer, aged thirty-two years, was knocked down by a bank of earth, July 24, 1877. He was brought to the hospital soon after, and found to have a compound and comminuted fracture of the left leg, midway between the knee and ankle. Both bones were broken. There was a ragged wound, an inch long, over the tibia, and a smaller one on the outer side of the leg, near the seat of fracture.

The limb was at once placed in a fracture-box, and the wounds sealed up with sheet lint wet in the compound tincture of benzoin.

The smaller wound was healed in a week. Suppuration in the larger wound was scanty and free from odor. The dressings were renewed as often as once a day or every other day. At the end of a month, when the wound was merely a small, granulating surface, without any sinus leading to the bone, the benzoin was changed for the oxide of zinc ointment, as it seemed to irritate the sound skin, causing slight excoriation. This is the only instance in which we have ever seen such a result from the use of the benzoin.

The wounds were entirely healed in seven weeks, although practically the fracture had been a simple one for some time previously. Union is gradually taking place, but a bandage of starch and glue is still necessary at the end of five and a half months.

CASE IV. Wm. K., aged twenty-three years, was sent to the hospital by Dr. Gavin, August 24, 1877, and placed under our care. The patient had been kicked by a horse a few hours before his entrance, and had sustained a compound fracture of the right tibia at the middle third. The bone was laid bare through a wound an inch and a half in length.

The leg was placed in a fracture-box, and friar's balsam applied. There was no suppuration for a week, and no undue inflammation about the injured parts. At the end of three weeks the wound was granulating, and closing up well. Some weeks later a scale of dead bone came away, and the wound closed soon afterwards. The patient was discharged well in four months.

CASE V. John F., laborer, twenty-six years old, while at work shoveling was struck by a pick. He entered the hospital soon after the accident, under the writer's charge. There was a wound large enough to admit the little finger, situated half an inch above the internal condyle of the right humerus. The condyle was broken off and the elbow-joint opened. Small pieces of bone were removed from the wound, an internal angular splint applied, and a compress wet in the tincture of benzoin. For a few days the joint was surrounded by ice bags.

The convalescence was rapid. At no time was there any suppuration or pain. The patient was sitting up in a fortnight, the wound was healed in three weeks, and he had good motion of the joint. He was discharged well in twenty-four days.

CASE VI. Mrs. —, aged forty-eight years, received a compound comminuted fracture of the left tibia and fibula by the falling of the seats on Blackstone Square, September 17, 1877. The bones were broken about four inches above the ankle, and the upper fragment was protruding from the wound. The fragments were adjusted fairly after considerable difficulty, and the limb was placed in a fracture-box and treated with compound tincture of benzoin and ice bags.

There was no suppuration for a fortnight, and then it was very slight. The ice was omitted at that time, and the benzoin in four weeks, when the wound was nearly healed. After five weeks the fracture was a simple one, but, as in the previous cases, the fragments were slow in uniting, and she was not discharged until January 10, 1878. There was good union at that time, nearly four months after the date of the injury.

CASE VII. Mrs. —, seventy years of age, was struck by a railway train, and brought to the hospital October 10, 1877. Dr. Ingalls was summoned and found upon examination the following injuries: A compound comminuted fracture of the tibia and fibula of the right leg at the junction of the upper and middle thirds; a simple comminuted fracture of the left femur; and a Pott's fracture of the left leg with a severe wound over the fibula at the point of fracture. She was also bruised about the face.

This patient was very intemperate, being intoxicated at the time of the accident; and for some days afterwards she was nervous and unsteady. She was placed upon a fracture-bed; splints were applied to the fractures and the benzoin to the wounds.

In twenty days the wound of the right leg was healed, and that of the left in about a month. She had an attack of pleurisy, and for some time was very



sick ; but she finally rallied, and was discharged with all the fractures united and free from any deformity, January 7, 1878.

*Remarks.* The above are not selected cases, but comprise all of the compound fractures treated conservatively by Dr. Ingalls and myself for a period of about six months. In every instance the primary dressing was sheet lint moistened with the compound tincture of benzoin. While this substance was in use suppuration was always slight in quantity, free from fœtor, and the surrounding inflammation moderate. Moreover, it was a grateful application to the patient, with one exception never causing any irritation. The wounds healed kindly, and were attended by little, if any, more pain than is often noticed in simple fractures of the same bones.

It is to be remarked that in nearly every instance in these patients union of the fragments required a very much longer period of time than is usually necessary in cases of simple fracture.

To the excellent condition of the hospital is probably due in a great measure the gratifying results obtained in the above cases. Yet we cannot help feeling that a part of the credit belongs to the use of the balsam. Whether the antiseptic or any other method of treating open fractures shall give as good results remains to be determined by future experience.

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#### LETTER FROM PHILADELPHIA.

MR. EDITOR, — The legislature of Pennsylvania, at its last session, passed an act to provide for the selection of a site, and the erection, of a State Hospital for the Insane, for the city and county of Philadelphia, and the counties of Bucks, Montgomery, Delaware, Chester, Northampton, and Lehigh, to be called the State Hospital for the Insane for the Southeastern District of Pennsylvania, etc. Pursuant to this a commission was created, which has recently purchased a site near Norristown, in Montgomery County, about seventeen miles from Philadelphia. As the plans embody some peculiar if not entirely novel features in the construction of hospitals for the insane, it may not be amiss to give a brief description of the proposed institution, obtained through the courtesy of Dr. Thomas G. Morton, of this city, chairman of the committee on plans and building, who has personally shown great interest in this subject, of which the characteristic features are largely due to his energy and enterprise.

In the first place this hospital is intended to be peculiar in the cost of construction. The appropriation limited the amount to eight hundred dollars per inmate, but the commission believe that when completed and ready for occupancy it will not have cost more than from six hundred and fifty to seven hundred dollars *per capita*. The manner in which this is to be accomplished is the second distinguishing feature of the construction, and was decided upon in the commission before specifications were sent out to the architects. The plan adopted comprises a central administration building, behind which are supply buildings, laundry, kitchen, baking, boiler and gas house, water-works, and work-houses for males and females. The patients will occupy isolated two-story buildings, two hundred and sixty-eight feet by forty in width, about one hundred

feet apart, and communicating with each other and with the central structures by covered galleries and underground passages. Six of these buildings, having each four wards accommodating twenty-five in a ward, or one hundred in each building, and two for the more violent patients, containing each seventy-five, makes a total of seven hundred and fifty beds. The two groups of buildings are symmetrically arranged, being separated from each other and evenly divided by the administration and supply buildings running down the centre, from which they individually draw their supplies through the corridors before mentioned, no cooking being carried on in the ward buildings. The heating is to be accomplished by steam radiators communicating directly with the boiler-house. Two contemporaneous systems of ventilation are proposed: by one series of ducts the air from the water-closets will be carried to the large central chimney shaft of the boiler-house; while the atmosphere of each of the wards will be kept pure by forced ventilation with fans, and by coils of steam pipe at the top and bottom of each ventilating shaft in the attic of each building.

It is proposed that the superintendent shall reside in the administration building and have charge of the two buildings nearest to the centre. In each of the other buildings, which are really separate hospitals, an assistant physician will reside, and it is expected that the efficiency of the institution will be enhanced by the friendly rivalry between them regarding the condition of the wards and care of the inmates; not to speak of the acknowledged advantages accruing from having the physicians living constantly among their patients.

The buildings are to be built in modern style, of red brick trimmed with stone and bricks in colors, the roofs to be of slate. The segregate structures will have a novel and impressive appearance when completed. The architects appointed are Messrs. Wilson, Bros. & Co. of Philadelphia.

The disadvantages of the cottage system of hospitals for the insane is here overcome by the underground communicating corridors, by which any ward may be visited without traversing the others. By separating the buildings the danger from fire is greatly lessened, which is still farther reduced by abolishing stoves, the food being transmitted directly from the kitchen, by the galleries, to the ward steam-closets, where it keeps hot until wanted.

Those who are interested in hospital construction will watch the erection of these buildings with more than ordinary interest.

An unusual operation for the relief of elephantiasis Arabum was performed by Dr. Thomas G. Morton, at the Pennsylvania Hospital, on the 17th of November last. The subject was a colored man, about thirty-five years of age, who had suffered from enlargement of the right lower extremity from childhood, and of late the disease had appeared in the left leg. The patient had been a slave in Virginia, had never seen any one with a similar affection, and had never been to Barbadoes. Dr. Morton had tied his femoral artery December 12, 1873, but with only temporary benefit.<sup>1</sup> He returned about six weeks ago entirely disabled, with his limb larger than it had been previous to ligation of the artery, and asked for amputation. Bearing in mind the trophic changes that ensue upon the division of large nerve trunks, Dr. Morton decided that section of the sciatic nerve was at least justifiable, with a view to

<sup>1</sup> For further notes of the case, see *Am. Jour. Med. Sciences*, page 337, for 1876.



changing the nutrition of the part, more particularly because, even if unsuccessful, it would not interfere with subsequent amputation if found necessary. The operation was performed by cutting down upon the sciatic in the middle of the thigh, and excising one inch and a quarter. The patient's recovery was temporarily delayed by an attack of congestion of the lung, but the wound is now entirely well. A noteworthy fact in the case was the small amount of paralysis following the operation. He could not move the toes, but has continued to be able slightly to flex and extend the ankle, but it was impossible to tell precisely which muscles were affected, on account of the great thickening of the epidermis. The anterior crural nerve seemed to supply the greater part of the surface of the lower extremity, since the only paralysis of sensation after the operation was on the anterior half of the dorsum of the foot, the plantar surface and heel, and a narrow strip of integument running up the posterior aspect of the leg to about the middle of the calf. The operation was followed by marked subsidence in the size of the limb, which has been continued, until at the present time it measures from five and one half to six inches less in circumference than at the time of the operation. Gradually all the thickened, hard epidermis has separated, leaving a soft, healthy-looking surface of sound skin; the heavy folds of integument above the ankle have apparently melted away. A number of careful temperature observations have been made, which with the detailed notes of the case will probably soon be published.

With the first of the year is announced the issue of a new monthly journal in this city, entitled *The Philadelphia Druggist and Chemist*, devoted to materia medica, pharmacy, chemistry, therapeutics, and the collateral sciences; C. C. Vanderbeck, M. D., editor and proprietor.

Dr. S. W. Gross used the Cautère Paquelin, or benzole-platinum cautery, at the clinic of the Jefferson Medical College, this morning, upon a very interesting case, where spinal meningitis had succeeded spinal apoplexy caused by a fall. The patient, a brakeman, fell from the top of a car, thirteen feet, to the ground, striking his shoulders. He was picked up unconscious and brought to the hospital, when it was discovered that there was complete paralysis of motion and sensation in the lower extremities, and paralysis of the bladder. The upper limbs were similarly affected, on the second day after the injury. On the sixteenth day his bowels were spontaneously opened, and since then there has been involuntary discharges. He had now been about six weeks under observation, and during the last few days unmistakable signs of spinal meningitis have been present, for which he was cauterized superficially by a white-hot platinum point, as already stated. The demonstration was entirely satisfactory and perfectly successful in establishing the usefulness of this latest addition to our armamentarium. Dr. Gross has also used this instrument for cauterizing the tissues after the removal of malignant growths, with the view of destroying any cells that may have escaped the knife.

P. S. It is but due to Professor Pepper to state that in our last letter a portion of his remarks were inadvertently italicized, for which we tender an apology.

COMPARATIVE MORTALITY-RATES.

	Estimated Pop- ulation, July 1, 1878.	Deaths during week ending January 12, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean of ten Years, '68-77.
New York.	1,093,171	563	26.78	24.32	28.71
Philadelphia.	876,118	302	17.93	18.80	21.54
Brooklyn.	549,438	216	20.44	21.51	25.50
Chicago.	460,000	146	16.50	17.83	22.39
Boston.	375,476	144	19.94	20.10	24.34
Providence.	104,500	47	23.38	18.81	19.20
Lowell.	55,798	14	13.05	19.09	22.50
Worcester.	54,937	18	17.05	21.07	22.30
Cambridge.	53,547	24	23.30	18.69	20.83
Fall River.	53,207	15	14.66	21.35	24.96
Lynn.	35,528	13	19.18	20.42	19.67
Springfield.	33,981	6	9.19	16.04	19.77
Salem.	27,140	6	11.49	20.38	21.15

SUFFOLK DISTRICT MEDICAL SOCIETY. — The regular meeting will be held at the rooms, 36 Temple Place, on Saturday evening, January 26th, at seven and a half o'clock. The following papers and cases will be read: —

Dr. E. Chenery, Rupture of the Bowels. Rib fractured by Cough.

Dr. F. A. Harris, One Hundred Cases under the New Law of Medical Examinations.

Dr. W. Channing, A Case of Feigned Insanity.

Professor Markoe, The Revision of the Pharmacopœia.

ERRATUM. — In the last number, on page 77, line 32, "from one drachm to two scruples" should read "from one drachm to four scruples."

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# THE BOSTON MEDICAL AND SURGICAL JOURNAL.

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## LECTURES.

BOSTON CITY HOSPITAL: SURGICAL CLINIC OF DAVID W. CHEEVER, M. D.,

*Professor of Clinical Surgery in Harvard University.*

GENTLEMEN, — This little boy was in the hospital last year, at which time you probably saw him. You will remember that his case was considered almost desperate. Amputation at the shoulder-joint seemed the only alternative, but there was no tissue for a flap, and moreover the boy was too weak to justify the operation. On his way to this country from England he was badly scalded. He was brought to this hospital for treatment. Various applications and procedures were tried upon him, but his arm eventually passed into a fungous condition; glycerine was then tried, with the object of drawing out the serum of the granulations. Finally we applied the ointment of the oxide of zinc until the burned surface closed over. The boy kept his bed for months with his arm upon a pillow, much of the time caring for it himself. On account of the great pain the dressing was not changed oftener than every other day. It was thought that if the part granulated well it might in time heal over, and with the hope of assisting the process we made use of skin grafting, trying especially to cover the point on the shoulder where the skin over the deltoid had been burned off. But we did not succeed. As you see, however, with the exception of this one point in the middle of the arm, at which there is a sore, the result of a fall, the arm is entirely healed and is a good and useful member. The burn covered the whole deltoid, going down to the elbow and nearly girdling the arm. Fortunately most of the contraction is on the posterior surface of the limb, over the triceps and latissimus dorsi muscles. If this amount of contraction were on the front of the arm and in the bend of the elbow or axilla, it would make the limb practically useless. There is now good motion and considerable power. You see the radiating character of the scars. They will gradually become white and puckered. In convalescence from burns the main trouble is the contraction and itching. You may observe that the upper line of the burn is so high as to be above the glenoid cavity, which, in case we had amputated at the shoulder, might have been exposed for months,

and perhaps would not have granulated over at all. We might have succeeded by amputating above the neck of the scapula, but, as before remarked, the boy had not the stamina to bear an operation. He has been nine months in the hospital, and is now an employee.

I show this case as an example of what nature can accomplish in a young subject. Bear in mind that youth is the age of *growth*. The individual not only maintains himself as he is, but all the tissues increase beside. In youth, therefore, repair is proportionately vigorous. Had this burn happened to a person of fifty or sixty years, it would, probably, never have closed.

*Malignant Tumor of the Mouth.* — I show you, as well as I am able, a growth in the mouth of this child.

The tumor is a large, purple, fungous mass on the left side of the mouth, projecting into the cheek, forcing the mouth open, and causing salivation. The entire growth is of only three weeks' duration. The child is thirteen months old, and the first dentition had commenced, but in proportion as the tumor developed from the jaw the teeth were forced out of their sockets. The only history we have is that of the rapid growth of this body, and I have brought the case before you as interesting merely in showing the surprising quickness of development. In another case I found a similar tumor near the breast bone, dark-colored, non-fluctuating, and growing fast. I cut into it, and only blood issued. It wore the child out, and he died. In a third case the tumor was located in the groin, and showed the same rapidity of development. It is the intense activity of the circulation in children which is the secret of the wonderfully swift enlargement of these tumors. We occasionally see similar excrescences spring out like mushrooms from the orbit of young children. This, like the others alluded to, is malignant and probably melanotic. Such a growth is almost purely cellular, with but little connective tissue. Treatment in such cases is practically useless.

*Malignant Tumor of the Jaw.* — This is a young, fresh-looking, comparatively healthy woman. She has had two children. Is suffering from a common complaint, the Boston catarrh. She comes to the hospital with pain in the upper jaw, in the antrum, and near the posterior nares. She has had all her upper teeth extracted, and has worn a false set for eighteen months. If she had her own teeth we should look for some neuralgic dental affection consequent on caries or alveolar abscess. The pain continued, and five weeks since I punctured the antrum, giving egress to serum and a little pus. The opening into the antrum is now nearly closed. What is the cause of this pain? That we shall hope to discover by exploration. Whether there be an abscess or a malignant growth, we do not yet know. There is a decided thickening of the soft palate, and considerable deformity of the face from expansion of the antrum. There is, too, a bloody discharge from the nose, unlike



that of ordinary catarrh. It is interesting to bear in mind that these affections of the antrum develop with rapidity. In the case of a young lady, recently under my treatment, a malignant growth involved the whole upper jaw of one side in six weeks' time. Here I hope to find caries or necrosis of the bone, yet there is a possibility of something worse. I shall perforate the antrum, using a very large trocar, but first incising the soft tissue of the gum with a knife. My trocar has entered the cavity, and a few flakes of pus come down. The instrument is able to move about freely. I show you the depth of the antrum by keeping a finger on the probe at the point of entrance. When thus measured the depth seems enormous. My probe now touches a soft wall. The same fluid which is flowing out of the opening flows also from the nose, showing that I have surely entered the antrum and stirred up its contents, which come down into the nose through the natural orifice. I now remove the canula, and with a burr drill, which is a most useful instrument in boring bone, I enlarge the opening. If it be still too small I shall break down the bone, so that I can pass in my finger and thus examine the contents of the cavity. The fluid which issues looks as if it might be either thick pus or broken-down cancer-cells. The opening is not large enough. Its edges cut the finger, and this destroys the sense of feeling. With mallet and chisel I cut out a bit of bone, and thus make a wider entrance. This fragment of bone is in such a softened, friable condition that it is the most suspicious thing I have yet seen in the case. We will preserve it for further examination. When we measured the cavity we thought the instrument passed in to a great depth. It now seems probable that the probe reaches the sphenoid behind the orbit, and thus accounts for the disappearance of so much of the instrument. The upper and posterior walls of the antrum seem pretty well absorbed. Now, introducing polypus forceps, I bring away several fragments of a soft, suspicious-looking growth, which will be kept for microscopic examination. Passing the finger in freely, I touch a soft, spongy mass which fills the top and back of the antrum. For various reasons we will do no more to-day. The patient is not prepared in her own mind. Besides, when the case is severe, I prefer not to operate upon a patient who has just come in from her own house after breakfast. Treatment under such conditions is often unsuccessful. At present I will only remove a little more of the growth, syringe out the cavity, and leave the patient until another opportunity. If the affection prove to be malignant, the only operation will be the excision of the whole upper jaw up to the orbit. Such an operation is oftener successful and with less deformity than one would imagine. You can see the result if the microscope shows that the trouble is malignant and if the patient permits us to operate. We already know that there is neither abscess, nor cyst, nor necrosis.

There is a soft growing mass involving the fifth pair of nerves, and probably malignant.

If we had no microscope, could we decide as to the real character of this case? We could, from the aid which the history of similar cases has given us; by elimination of other diseases, as caries, necrosis, abscess, or cyst; and also by the *gross* appearances of the growth.

*Suppurating Bubo.* — We have here a young man who has a large, soft, suppurating bubo, which followed two soft chancres of a fortnight ago. The swelling has evidently been very rapid. Something has been applied to the part, probably iodine, which has had the good effect of hurrying the development. The question is as to how we shall open the bubo. Shall the opening be large or small?

If the patient must work, it would be better to make a small opening and let him attend to the discharge himself. As he is to remain in the hospital, it will be better to make an incision one and a half inches long and turn the bubo into an ulcer, — which I have done. It is next to be poulticed, then packed to the bottom with charpie dipped in equal parts of tincture of myrrh and water.

*Excision of the Upper Jaw.* — The patient whom we examined by perforating the antrum now<sup>1</sup> comes for operation. The portions of growth then picked away from the antrum showed under the microscope a vast number of small round cells, some larger and spindle-shaped, and but little connective tissue.

For five years past I have preceded the removal of the jaw by a preliminary operation of tracheotomy, as this enables us to avoid the chances of suffocation by clots getting into the glottis, and also diminishes shock by allowing us to operate in the horizontal supine position.

[The tracheotomy was now done, and a large tube inserted into the windpipe. Thenceforward the ether sponge was applied to the mouth of the tube.]

Placing the patient upon her back, I uncover the upper jaw by Fergusson's incision. This begins at the inner angle of the eye, and goes down round the ala of the nose and through the myrtiform fossa of the upper lip. No other cut is needed to remove the superior maxillary bone. Thus we avoid unsightly scars, mutilation of the muscles of expression, and division of the facial nerve. The vessels having been secured, I now cut up the ala of the nose from the bone, and clear away the floor of the orbit; saw through the junction of the maxillary and malar bones; cut through the nasal bone, the os unguis, and the orbital process of the frontal into the corner of the eye; and then, having cut across the junction of hard and soft palates on the affected side, I divide the alveolus and palate process with the bone forceps. The jaw now removed verifies the diagnosis made ten days since. The roof of the antrum

<sup>1</sup> Ten days later.



is eroded and absorbed, and hence the depth to which the probe penetrated on that occasion. The antrum is thoroughly diseased, and a soft cellular growth extends back to the pterygoid plates and to the sphenoid cells. This we scoop away and touch the bone with a styptic. The skin flaps we now fit accurately together with stitches, and but little deformity will result. The trachea-tube will be removed in a few hours.

*Nasal Polypus.*— This woman, of middle age, has a polypus in the right nostril. It has been growing some weeks, and is in view at the orifice of the nose; a fragment of this was removed yesterday, and under the microscope showed nests of epithelial cells. It is, then, a form of cancer, but does not appear to have invaded the antrum.

I purpose to remove it by cutting around and turning up the ala of the nose. On opening this window in the side of the nose the tumor springs into view. The growth, together with the turbinated bones, will now be cut away with cutting-forceps. The disease is confined to the right nasal cavity. The nose is to be plugged with an oiled rag, packed with small sponges, and the flap of skin restored to place and stitched.

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## CASE OF INDUCTION OF PREMATURE LABOR FOR PELVIC DEFORMITY.<sup>1</sup>

BY W. L. RICHARDSON, M. D.,  
*Visiting Physician, Boston Lying-In Hospital.*

M. P., a colored girl, twenty-two years of age, entered the Boston Lying-In Hospital on May 12th to await confinement. When five years of age she was struck upon the back by a falling window-sash, and soon after a "lump" appeared at the seat of injury. From that time until the age of eleven she became more and more hunch-backed. Her spine presented the usual curvature of a hunchback, the antero-posterior curve being particularly prominent, while there was also some lateral inclination to the left. Suspicions of a deformed pelvis being excited, an examination was made under ether, the sensitiveness of the patient rendering the administration of an anæsthetic necessary. The antero-posterior diameter of the pelvis was found to be much shortened, the distance from the symphysis to the promontory of the sacrum being roughly estimated at two and three-fourths inches.

The patient being seven and a half months advanced in pregnancy the induction of premature labor was considered advisable. My colleague, Dr. Tuck, after an examination on the following day, having arrived at the same conclusion, the case was submitted to the consulting staff of the hospital. Accordingly, on May 14th, the patient was

<sup>1</sup> Read before the Obstetrical Society of Boston, November 10, 1877.

etherized by Mr. W. O. Moseley, the house physician, and a careful examination was made by Drs. Minot, and Reynolds, and myself, and the following measurements were taken by means of Baudelocque's calipers:—

PELVIS: EXTERNAL MEASUREMENTS.

Antero-posterior diameter . . . . .	6 inches.
Antero-superior iliac spines . . . . .	8.625 inches.
Central points of iliac crests . . . . .	10.25 inches.

INTERNAL MEASUREMENTS.

Inlet. Antero-posterior . . . . .	2.75 inches.
Outlet. Antero-posterior (from sacro-coccygeal joint) . . . . .	4.50 inches.
Transverse . . . . .	4.25 inches.

The coccyx was very movable, and the arch of the pubes widely spreading.

The induction of premature labor being unanimously advised, and the bladder having been previously evacuated, a full-sized elastic male catheter, thirteen and one half inches long, was passed without the stylet between the membranes and the walls of the uterus at the posterior part and along the median line, the membranes being unruptured. The catheter was retained in place by introducing a stylet for about three inches, and curving the remainder of the wire up over the abdomen as a point of support, the whole being fastened by a piece of tape, the centre of which was tied round the mouth of the catheter, one end passing over the pubes and through the ring of the stylet, and the other passing backwards over the sacrum, both ends being subsequently secured to a waist bandage.

The catheter was introduced at 11.05 A. M., and at 2.15 P. M. labor pains set in, recurring at intervals of about fifteen minutes through the afternoon. At nine P. M. the pains were of moderate severity, principally in the back, and occurring once in ten minutes. Catheter still in place. Cervix wholly taken up. Os about the size of a cent, admitting finger; soft and dilatable. Head of child resting on superior strait. Pulse 100. The foetal heart was heard two inches to the left of the umbilicus, 164. Urine drawn with the catheter.

At 9.30 P. M., the labor progressing favorably, the catheter was withdrawn, and soon after the pains became more frequent, occurring once in five minutes, and continuing so through the night.

At two A. M. on the morning of the 15th three fifteen-grain doses of hydrate of chloral were given at intervals of twenty minutes, without much effect, however, upon the patient. The os at this time, although quite soft, was but slightly dilated. At 5.30 A. M., after two severe pains, the patient was attacked with profuse flowing, and the os was found two thirds dilated, with a tense bag of membranes protruding, on rupturing which the hæmorrhage immediately ceased. The head now descended rapidly to the perinæum, and was seen present-



ing it the vulva within half an hour after the escape of the liquor amnii.

Several pains having failed to accomplish expulsion, and the pulse being 160, it was decided to apply the forceps and thus terminate the labor. Ether being administered, the blades were therefore introduced, and the slightest traction was sufficient to supply the slight lack of rotation which existed, and the child was expelled almost without effort at 6.55 A. M. The child was a male, weighing three pounds, and was at once wrapped in cotton-wool and kept warm, but despite the precautions usually adopted in such cases it died in about seventeen hours.

An examination of the head gave the following measurements: —

Bi-parietal . . . . .	3.125 inches.
Occipito-frontal . . . . .	3.875 inches.
Occipito-mental . . . . .	4.75 inches.
Length of fœtus . . . . .	18.50 inches.

By slight compression the bi-parietal diameter measured two and three fourths inches.

The uterus for some time showed a tendency to relax, but finally remained firmly contracted. The patient recovered well from the ether, and soon fell asleep.

During the next few days considerable abdominal pain was complained of, requiring the administration of morphia for its relief. The lochia were scanty, but not offensive. There was no milk.

On the 20th all abdominal pain had ceased, but a profuse diarrhœa set in, the lochia became offensive, and the mind somewhat wandering. Pulse 132. Temperature 102°. Quinine, two grains every four hours, was administered. Synovitis also appeared in the left knee, causing stiffness and pain. From the 22d, however, she commenced improving steadily, the mind becoming clear and the bowels regular. On the 24th the quinine was diminished to two grains three times a day, owing to the appearance of slight symptoms of cinchonism. The temperature and pulse were uniformly high from the first, the former ranging from 100.6° to 105.2°, and the latter from 124 to 152. On the 28th she was transferred, convalescent, to the Massachusetts General Hospital, to be treated for the synovitis, from which she soon recovered, and was discharged June 30th, well.

## SPRUDEL SALTS IN THE TREATMENT OF GALL-STONES.

BY M. GOLDSMITH, M. D., RUTLAND, VT.,  
*Formerly Professor of Surgery in Castleton Medical College.*

DURING the winter of 1873 and the spring of 1874 a member of my family suffered severely from gall-stones. Opium could not be borne in any of its forms. Each administration of morphia, hypodermically or otherwise, was followed by uncontrollable nausea and vomiting, lasting

from twenty-four to thirty-six hours. Being unable to procure relief, I determined to take my patient to Carlsbad, Bohemia, for the purpose of trying the waters of that spa, so renowned throughout Europe in the treatment of gall-stones, and, indeed, in affections of the liver generally.

The Carlsbad springs, of which there are several, issue at somewhat distant fissures, and differ only in temperature. Sprudel is the name given to the hottest and largest spring.

Almost all persons resorting to Carlsbad place themselves under the care of some one of the resident physicians. I availed myself of the services of the most celebrated one, Dr. Sukan, of Vienna, who usually spends the season there.

The "course" in cases of gall-stones is substantially the following: The patient is directed to rise early, for the waters are to be taken before breakfast. He walks, if able, to whichever of the springs the medical attendant indicates, — almost always one of two hottest. Each person carries a glass with a handle, else it would be too hot to hold. This glass holds about as much as a medium-sized tumbler. The patient has it filled by one of the attendants, and sips the water when it gets cool enough to swallow. He drinks it slowly. In about fifteen minutes he takes another, and in fifteen minutes more a third, commonly the last glass. If strong enough he moves about while drinking the water, and, after completing the requisite number, he takes a walk if his lodgings are so near the spring that going to and fro does not give the necessary exercise. Now all this drinking is to be so timed that the breakfast is not until half an hour has passed after the last glass.

The temperature of the water seems to be a matter of some consequence. If it is taken too hot it may produce a sense of fullness of the head, or even headache. In such case the patient must wait until the water grows cooler. If it is taken too cold it may purge. In this case he must drink it while it is hotter. The water if taken warm seems to be absorbed more quickly from the stomach. I myself have on some mornings sipped six or seven glasses without any feeling of distention or other inconvenience.

For breakfast the patient is allowed to have a cup of coffee or chocolate, two boiled eggs, and bread; nothing more. Butter and vinegar are entirely prohibited. For dinner he has soup, rare meat, and vegetables; no butter, cheese, or vinegar. Exercise by walking or riding before dinner is enjoined when the patient's strength and the weather permit. Under this treatment my patient had no more attacks of colic. All the patients with whom I became acquainted, except one, were relieved, many of them as promptly as mine. One gentleman seemed only partially relieved. I sent him to Heidelberg to Professor Simon, who, examining his gall-bladder with the hand in the colon, discovered



with his finger the reason of the failure of the Carlsbad water to do anything more than to palliate. The solution was this: the gall-stone was described as being larger than a pigeon's egg, irregular in shape, and thus could not pass. I have little doubt of the correctness of the diagnosis. For Dr. Simon showed me the method of his examination, not per rectum, but per colon. With his fore-arm passed up the gut nearly to the elbow he presented his finger so that I could feel it over almost the whole of the abdomen, except toward the right iliac region. Be that as it may, the Carlsbad waters, I am free to affirm, are the most certain remedy for gall-stones that we have. I know of nothing but these which does more than to palliate.

The gentlemen practicing medicine at Carlsbad do not seem, the best of them, to think that these waters play any solvent part with regard to the gall-stones. The stones passed there show no traces of erosion. The explanation they give is that the waters produce a great flow of limpid bile, which helps, mechanically, to extrude them, and at the same time cure, or at least lessen, the catarrh of the gall-bladder and duct, so that the stones in passing provoke no spasm, and the patients escape the atrocious pain commonly attending upon the passage. More than this, the diet and regimen help to break up the habit of making gall-stones which the liver seems to get into. The "course" is six weeks. Those who come through it enfeebled are advised to go to the iron spas. All are recommended to take a second course the succeeding season. I think it probable that this advice is not altogether disinterested.

All this the readers of the JOURNAL have doubtless seen before, but probably they have not read this statement, the very mention of which enrages a true Carlsbader: that Sprudel salts dissolved in hot water and taken in the same way that the waters are taken at the springs, or that the natural waters, which are imported into this country and can be had of the New York agent, heated to the temperature of the spring, are just as efficacious here as they are at Carlsbad, if only the patients will submit to the same regimen. My neighbors and I have used the Sprudel salts in this way amongst our patients with fully as good effects as I ever saw at Carlsbad. We have tried them in cases of gall-stones, in gastric catarrh, especially that of the intemperate, and in enlargement of the liver, with the most effect, however, in the acute or recent enlargements, presumably simple or subacutely inflammatory, and chiefly in that form accompanying hard drinking, which is almost always enlargement with fatty infiltration. It is supposed that the salts reduce the volume of the liver by virtue of the large secretion of bile which they induce. I have no doubt the diet and regimen contribute to this result. However that may be, the success of the practice is exceedingly gratifying.

Our method is to prescribe eighteen grains of the natural (not the artificial) Sprudel salts, to be dissolved in three glasses of hot water, and to direct these to be taken at intervals of at least fifteen minutes, the last, thirty minutes before breakfast; all to be sipped slowly, while walking if practicable. Sometimes I have heard patients complain of the size of the dose. In all such cases it turned out that the water was gulped, not sipped. One advantage in having the water quite hot is that if taken in large swallows it will scald, and thus sipping is enforced. Sometimes it may be well to increase the dose, sometimes to decrease it. If three glasses (eighteen grains) will purge even when taken hot, we must begin with a smaller dose. If three glasses make the head ache, although taken nearly cold, then nothing is to be done but to diminish the quantity.

In cases of enlarged liver the diet is regulated according to the physician's own notions. It need not be absolute or restricted to a few special articles of food; the absolute diet is required only in cases of gall-stones. In gastric catarrh the diet and regimen are such as are used in dyspepsia.

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## RECENT PROGRESS IN FORENSIC MEDICINE.

BY F. W. DRAPER, M. D.

*The Medico-Legal Relations of the Post-Mortem Imbibition of Poisons.*  
— The discovery, by the toxicologist, of the absorbed poison in the tissues and organs of a dead body is regarded as irrefragable proof that the poison was administered during the life of the deceased. Is it possible that a poison can find admission within a human body *after death* and produce appearances similar to, if not identical with, those resulting from swallowing the same poison during life? To the discussion of this inquiry Prof. John J. Reese has contributed some recent observations.<sup>1</sup> He remarks that if the question can be answered affirmatively a very strong point in legal medicine will be made, since what has heretofore been regarded as one of the firmest pillars of evidence for the prosecution in cases of poisoning will be shaken, and a powerful weapon will be placed in the hands of the defense, which may be wielded by a skillful counsel either for good or ill.

There are two methods by which a dead body can possibly receive a poison into itself: one, the accidental, by means of which, after burial in a poison-bearing soil, in the course of time the decomposing tissues and organs are supposed to take up the noxious agent from the ground; the other, the intentional, where the poison in solution has been purposely introduced into the stomach or rectum, or hypodermically into

<sup>1</sup> Transactions of the College of Physicians of Philadelphia. Third Series. Vol. iii. 1877. Page 23.



the cellular tissue or into the blood-vessels, as in embalming. The first of these methods, the poisonous contamination of the dead body by the cemetery soil, is extremely problematical; in the case of arseniferous soils, for example, the arsenic exists in an insoluble combination with iron or lime, requiring hydrochloric acid to liberate it: so that the theory that a dead body may receive a poison from the earth in which it is buried is not a tenable one. But the other methods, by which poison may be intentionally introduced, are not so easily disposed of; and Professor Reese declares that in his opinion it is certainly possible that poison so introduced can by imbibition or osmosis become diffused so that the analyst will find it in the organs just as if it had been absorbed during life. This being granted, the really vital and practical question remains: Is it possible, in an unknown case of poisoning, disregarding all collateral clinical, anatomical, and legal evidence, to distinguish by chemical analysis alone between poison really absorbed during life and poison simply imbibed by the tissues after death? Professor Reese lays great stress upon the relative amounts of the poison recovered by analysis near the surface and in the interior of an organ, — the liver, for example; the evident explanation being that the blood in circulation would carry the poison to all parts alike, while post-mortem imbibition would affect the parts nearest the source of the noxious agent, and would not, especially in recent cases, penetrate deeply.

Some recent experiments of M. Scolusoboff, of Moscow,<sup>1</sup> show that in dogs and rabbits poisoned by arsenic this substance is deposited in the brain and spinal cord in far larger quantities than in the liver and other organs. If these observations should be verified upon the human subject, not only with regard to arsenic but also with regard to other poisons, the chemist would be in the possession of a positive and unequivocal method of distinguishing ante-mortem absorption and post-mortem imbibition. It would then be necessary for the pathologist to supply to the chemist the brain and spinal cord in addition to the parts usually preserved for analysis.

Professor Reese, in conclusion, states it as his opinion that, "in a trial for the capital crime of poisoning, the defense has the undoubted right to demand on the part of the chemical expert not merely proof of the detection of the alleged poison in the stomach, nor even proof of its discovery in the organs and tissues of the body, but evidence of its detection in the *interior* of these organs and in the brain and spinal cord."

*Putrefaction of the Lungs.* — Dr. Arrigo Tamassia has made some experiments with regard to the effects of putrefaction upon the respiratory organs.<sup>2</sup> His results are summarized as follows: —

<sup>1</sup> Archives de Physiologie, No. 5, 1875.

<sup>2</sup> Rivista speriment. di frenetria e di med. legale; Revue des Sciences médicales, July, 1877, page 216.

(1.) The epithelium is the first portion to manifest the changes due to putrefaction; it becomes opaque and granular, and presently disappears.

(2.) The epithelium of the foetal lung disappears two or three days earlier than that of lungs which have respired.

(3.) When decomposition takes place in the atmosphere the epithelium disappears on the eighth day; in the ground it disappears on the ninth day; in water on the tenth day; and in an ammoniacal solution on the twelfth day.

(4.) The subpleural and pulmonary connective tissue becomes opaque and granular, and is reduced to detritus in from forty to forty-five days.

(5.) The elastic tissue of the lung and of the pleura is entirely destroyed toward the seventieth day; but after the fifty-sixth day it has undergone changes which thenceforward render it difficult of recognition.

(6.) Putrefaction goes on more rapidly in the atmosphere than underground; it is slower still in water, and slowest in a solution of ammonia. The difference is from four to six days.

(7.) Lungs which have not respired undergo the changes of decomposition five or six days before those which have respired.

(8.) An ammoniacal solution gives to the pulmonary tissue a red color. Putrefaction underground renders it grayish. In the latest stages of decomposition it becomes a blackish pulp.

(9.) The pigment of lungs which have breathed is indefinitely preserved in this detritus.

(10.) Lungs which have respired lose, in the process of decomposition, their buoyancy.

(11.) Lungs which have not respired do not acquire by decomposition the property of floating on the surface of water.

(12.) The persistency of the pigment in the midst of lung tissue which has putrefied is not peculiar to the coloring matter of the respiratory organs. The dark pigments of the spleen derived from the blood are also preserved in the decomposition of that organ. Chemistry alone can determine whether the coloring matter of the lungs is of organic origin or is derived from coal.

*Medical Evidence from the State of the Ovum or Fœtus in Cases of Criminal Abortion.* — Is it possible from the examination of the aborted ovum embryo, or fœtus, to give a valid opinion whether the abortion was the result of accidental causes or of criminal interference? This question has recently come before the Société de Médecine Légale, upon the presentation of a case of presumed criminal abortion, and was referred to a committee, whose conclusions were as follows: <sup>1</sup>—

“(1.) Abortion in the *first* month of pregnancy is always attended

<sup>1</sup> London Medical Record, February, 1877, page 93.



with the expulsion of the complete ovum (*en bloc*), and it passes from the woman unperceived by her.

“(2.) The aborted ovum may, however, in some cases undergo spontaneous rupture during its passage through the neck of the womb.

“(3.) From the *second* to the *third* month also the ovum may be expelled in a complete condition; but this is not usual, except when the foetus is dead. When the foetus is living it is more common to find that it has undergone rupture. This depends on various conditions, such as the degree of resistance offered by the ovum, the force of the uterine contractions, and the state of the cervix uteri.

“(4.) The absence of the foetus does not prove that there has been criminal interference, for if the dead ovum have remained long in the uterus the foetus or embryo may have disappeared by solution.

“(5.) Dating from the *third* month it is usual to find the ovum broken up, abortion taking place at two periods, with the discharge of the foetus followed by that of the placenta.

“(6.) At the *fourth* month, and subsequently, abortion may be regarded as a delivery on a small scale. At this period it is exceptional that the ovum is found expelled entire.

“(7.) Up to the third month the cord is too weak to resist the force required to extract the placenta; and, *a fortiori*, it would not be strong enough to allow an inversion of the parts, as was assumed in the case reported to the society.

“(8.) Rupture of the membranes, taken alone, cannot, therefore, be regarded as a sign of intentional abortion, and even if accompanied by an inversion of the membranes it cannot be admitted as sufficient evidence of a criminal act, even in the early stage of pregnancy.”

*Poisoning by Phosphorus.*—It is not common to hear of cases in which phosphorus is taken as an abortifaciant. A recent number of the *British Medical Journal* contains the report of a case which shows that this agent, like other irritants, may lead to the expulsion of the foetal contents of the uterus. A young woman, who was in the seventh month of pregnancy, procured some phosphorus paste and took a small quantity of it on two or three occasions. The symptoms were slow in developing; she suffered from severe pain and vomiting, and died in forty-eight hours, after giving birth to a still-born child. The post-mortem appearances were significant of phosphorus-poisoning. The stomach contained half a pint of dark liquid like coffee-grounds; there were large purple patches on the mucous surface. The contents and inner surface of the stomach were luminous in the dark. The upper portion of the small intestine was much congested. The liver was undergoing fatty degeneration. The medical witness in the case stated very properly that the phosphorus acted indirectly on the uterus by the irritation which it caused in the stomach and bowels.

*Cases of Retarded Putrefaction and Prolonged Post-Mortem Rigidity.*—M. Tarchini-Bonfanti records two cases of unusually prolonged rigor mortis and retarded putrefaction which occurred under his observation in Milan. The bodies of two women were found with their heads battered in and with the signs of profuse hæmorrhage about them. Rigor mortis was fully developed, and there were scarcely any evidences of putrefaction, so that M. Bonfanti and several other physicians and surgeons at first believed that the interval since death was not more than thirty-six hours. But when it was considered that the temperature was low ( $50^{\circ}$  to  $54^{\circ}$  Fahrenheit), that the atmosphere of the room was dry and still, that the bodies were on a Dutch-tiled floor, exsanguine and with the alimentary tract nearly empty, and that the deaths had been sudden, the conclusion was reached that a longer period than thirty-six hours must have elapsed, and that the bodies might have remained in the condition in which they were found for twice that length of time. On the trial of the assassins, it appeared that death in these cases had occurred four days and a half before the discovery of the bodies.

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## PROCEEDINGS OF THE NORFOLK DISTRICT MEDICAL SOCIETY.

HENRY R. STEDMAN, M. D., SECRETARY.

NOVEMBER 13, 1877. The society met in Bradlee's Building, Roxbury, at eleven o'clock, the president, DR. J. P. MAYNARD in the chair. Present, forty members.

DR. R. T. EDES gave an elaborate demonstration of the anatomy and physiology of the kidney by microscopic sections of that organ from man and from the rabbit, and illustrated his remarks by numerous diagrams.

PROF. G. F. H. MARKOE begged leave to call the attention of the society to the fact that the next convention for the revision of the United States Pharmacopœia will meet in 1880. That it is very important that the Pharmacopœia of 1880 should represent the most advanced pharmaceutical practice of the times, and that it should be something more than a mere list of officinal materia medica, with a collection of working formulæ for the preparations recognized by this work. At the last meeting of the American Medical Association, Dr. E. R. Squibb presented to that body a plan for the revision of the Pharmacopœia, proposing many changes in its character, with a view of completing the work without a commentary to explain it. The American Medical Association having declined to take the step proposed by Dr. Squibb, the next revision will be issued under the auspices of the National Convention for revising the Pharmacopœia, which will consist, as usual, of delegates from all incorporated medical societies and colleges of pharmacy in the United States. At the last meeting of the American Pharmaceutical Association a committee of fifteen members from all sections of the country was appointed, who were



instructed thoroughly to revise and print a Pharmacopœia which shall embody all the useful innovations proposed by Dr. Squibb, together with any other desirable changes and additions. The book so prepared will be offered by the American Pharmaceutical Association to the National Convention for revising the Pharmacopœia, in 1880. The committee, which includes Professor Markoe, has begun the vast amount of work assigned it, and has issued a circular giving a prospectus of the proposed changes, the following-named being some of the most important: (1.) The present division into materia medica (primary and secondary list) and preparations shall be abolished, and a strict alphabetical order substituted. (2.) Since it is better to have the Pharmacopœia too full than deficient, all articles at present officinal will be retained, and a full list of all new crude drugs, chemicals, and pharmaceuticals that have come into use during the past ten years shall be printed, and then the responsibility of their ultimate adoption or rejection shall be left with the final committee of revision. (3.) To all crude drugs short and concise descriptions are to be added, indicating the distinctive character as seen by the naked eye or by means of a good pocket lens. Sophistications should be mentioned. The botanical names of plants should have the name of the determining botanist given, as well as the natural order of plants to which it belongs. (4.) Temperature shall be expressed both by degrees of Centigrade and Fahrenheit. (5.) Chemicals that will admit of it shall have their formulæ expressed in the new notation, and their atomic and molecular weights given. (6.) All measures of capacity shall be abandoned, and quantities shall be expressed only in parts by weight. (7.) All officinal articles used as remedies shall have the average adult dose stated. (8.) Tables of the maximum single and daily doses of powerful remedies, of poisons and antidotes, of the solubility of the officinal chemicals in water and alcohol at  $15.5^{\circ}$  C. ( $60^{\circ}$  F.) and at their boiling point. An alcoholometrical table. Tables of the specific gravities of the officinal liquid acids at  $15.5^{\circ}$  C. and  $25^{\circ}$  C. Table of reagents in proper dilution, and list of normal volumetric solutions. A table of the relationship between weight and measure of all liquid preparations. (This would facilitate the system of prescribing by weight alone.) A table exhibiting the differences in strength of powerful galenical preparations of the principal foreign pharmacopœias.

Professor Markoe said, in conclusion, that the committee would be only too glad to receive suggestions from physicians in regard to the introduction of new remedies, or any contribution that would aid in the proposed work. The committee recognizes the importance of consulting physicians as to what drugs should be authorized in the Pharmacopœia, and hence appeals to them for assistance in perfecting the list of drugs from which preparations are to be made.

DR. JOEL SEAVERNS then read a paper on some of the mineral waters of New England. He began by a description of some half dozen or more kinds of waters, which are much advertised in this vicinity, and also largely sold and drunk: namely, the Allandale, the Arnold Street, the Buxton, the Lewiston, the Mount Zercon, the Poland, the Vienna, and the Summit waters. The last six are brought from different sources in the southern-central parts of

Maine, from natural springs in a hilly region, and all of them have more or less local celebrity in the cure of illness. The Allandale is a spring at Jamaica Plain, and the Arnold Street water is from an artesian well in that locality one hundred and eighty feet deep.

He then gave Professor Bache's definition of mineral waters, — those which "have a decided taste and a peculiar operation on the economy;" but these which are here referred to have no taste, and their effects on the economy vary so greatly that they can hardly be called peculiar. He quoted also an amusing description given of the virtues of the water of Pyrmont in 1733.

The character of these waters, like that of all natural waters, depends on the soil and the geological formation through which they flow, and as almost the whole of New England is made up of about the same stratum of rocks, these springs are much alike. They are clear, tasteless, and have been spoken of erroneously as hardly different from the waters of old hard wells, — erroneously, because *these* waters do not contain sufficient minerals to render them hard. In them exist only from two to thirty grains of salts to the gallon, on which account they are safely recommended to one class of customers for the valuable medicinal qualities of their ingredients, or to another as being uncommonly pure waters, free from injurious ingredients.

These waters are not acidulous, chalybeate, or sulphurous, but simply saline, and resemble none of the well-known springs resorted to in Europe except those of Gastein; the latter contain similar salts in nearly the same proportions, but differ in the fact that they are thermal springs, having a temperature of about  $111^{\circ}$ , which may account for their popularity and usefulness. These salines (we select the most important) are much alike in all. In each gallon of water chloride of sodium, from one fourth of a grain up to thirty-two grains, is present; sulphate of potash, from traces up to seven grains in seven out of eight cases; sulphate of soda, from a tenth to three grains in four out of eight; carbonate of lime, from a third to two grains in five out of eight; the carbonates of magnesia and soda, from one fifth of a grain to one half in four out of eight; while in one the carbonate of iron occurs, as does also the crenate of iron, one fiftieth of a grain of the former and one third of a grain of the latter. In two specimens Dr. S. D. Hayes finds the bicarbonates of iron, lime, magnesia, and soda, from a twenty-fifth of a grain up to four grains; nearly one grain of sulphate of magnesia was present in one, and about the same quantity of chloride of calcium. Iodide and bromide of sodium were both found, nearly one tenth of a grain of the latter, and one hundredth of a grain of the former in one specimen of the waters. These, it must be remembered, are the amounts in a gallon.

DR. SEAVERNS then proceeded to demonstrate the fact that these different constituents are the ordinary salts of all springs; experience shows that chloride of sodium (common salt), being one of the most abundant of the very soluble salts, is present in almost all water; its valuable medicinal qualities are well known, although it is seldom prescribed by the faculty. Sulphate of sodium, Glauber's salts, an important constituent of Friedrichshall and other cathartic waters, prevails also in infinitesimal quantities in the Allandale, Lewiston, and other waters, the largest amount present being less than three grains



to the gallon, requiring more than eight gallons to be equivalent to a glass of Friedrichshall water.

Of the carbonates, that of lime (common chalk or marble) is the most abundant of all earthy carbonates, but is sparingly soluble, so that it cannot be held in large quantities by springs; the bicarbonate is more soluble, and therefore probably present in more waters than the former. The carbonate of iron, being insoluble, is of course seldom found, and the bicarbonate only in very small amount.

The sulphate of magnesia occurs in a great many of the mineral springs of Europe, generally with sulphate of soda and chloride of sodium, and necessarily adds to the cathartic property of these waters when present in any appreciable quantity. It is found in but one of them, and only to the amount of one grain to a gallon, so that twenty gallons would be equal to a glass of Friedrichshall water. Chloride of calcium is also extremely soluble and apt to occur with chloride of sodium.

From this hasty glance at these divers constituents and their therapeutic powers, it is plain that neither their presence nor the quantities in which they are found in these waters is especially noticeable, or peculiar enough to distinguish these from any other waters, either river or spring. This becomes still more evident if we place by the side of these analyses that of the water of Cochituate Lake. For we shall find the most noticeable features of the comparison to be the great similarity between them, and the presence in the latter of almost all the salts of the former, in very similar proportions, except that the Cochituate contains rather less in the total than the others, thus showing it to be, to say the least, as pure as any.

As the use of these waters is almost entirely without medical direction, and completely without diet or regimen, we can only arrive at very inadequate tests. As regards the waters from Maine, the Poland for instance, which has been longer in the market and employed more largely than any other, although there is perhaps no scientific proof of its efficacy, yet the popular faith in its virtues, among intelligent men who have used it, is so general that Dr. Seaverns had no doubt of its being in some sense well founded, and that in many cases of chronic diseases of the bowels, liver, kidneys, or skin, large draughts of this or other waters have been followed by improvement.

Now, as has been said, the amount of drugs in these waters is so exceedingly small that it does seem absurd to impute any influence on the affected organs to them, — that of the Allandale waters containing in a gallon less than three and one half grains of salts; so that a person who should eat a potato with salt upon it, or a so-called saleratus biscuit, or a griddle-cake made from the self-raising flour, would take a larger quantity of these salts (popularly supposed to be so noxious in bread, so healthful in water) than one would who poured down some quarts of these waters. And yet there is abundant evidence, more or less reliable, that patients suffering from abdominal obstructions, from dyspepsia, from early stages of Bright's disease, or from general debility have been benefited by the free use of the Lewiston, the Poland, or perhaps any other of these "remedies," the quantities imbibed being various.

Yet, in estimating the virtues of these waters, we should do them injustice if we did not state that it is believed by competent observers that *all* mineral waters have upon the economy an influence greater, for better or worse, than can be explained by the specific action of the various salts they contain. Thus Sir Henry Thompson alludes to this when, recommending the use of certain waters in the treatment of calculous disorders, he says that small quantities of drugs as they exist in mineral waters will act more freely than will the same quantities combined after the ordinary pharmaceutical methods. Nevertheless, if we grant this, it will still be difficult, taking an impartial view of the analyses of these waters and that of the Cochituate, to believe that any one of them has a special curative power.

Finally, Dr. Seaverns believed that the cathartic, diuretic, diaphoretic, and tonic effects of *water* — for in these various ways it may act — account for the favorable results experienced after the use of our so-called mineral waters. We hear nothing, of course, of the injurious effects that these waters probably have on some of those who indiscriminately flood themselves with these remedies, but every physician is well aware that many persons cannot take cold water freely without experiencing unpleasant feelings of weight and coldness at the epigastrium, and impaired digestion. So that even those who have charge of hydropathic establishments declare that they find many who cannot with impunity begin with more than half a tumbler of water at once, although they hope in time so to cultivate their powers that they may take from four to six up to twenty or thirty tumblers in a day; but almost all such persons warn patients against the indiscriminate or too abundant internal use of water, and declare that they have seen not a little mischief arise from it.

In conclusion it seemed to Dr. Seaverns that the cures seen to be wrought by the *medicinal ingredients* of these so-called “mineral waters” were entirely imaginary; but nevertheless he saw no reason why a physician might not, in very many cases, prescribe almost any of them after a discreet and reasonable method, and expect confidently to see benefit resulting.

DR. ARTHUR H. NICHOLS read a paper, which is reserved for publication, upon Aiken, South Carolina, as a health resort.

DR. MAYNARD related the case of a patient of his who had been in ill health for many years, the trouble being referable to overwork in business and the symptoms nervous in character, — debility, headache, insomnia, etc. Supposing that he had brain disease, he traveled for his health, and soon made a stay near a mineral spring where he began taking the waters, from which time his health rapidly improved, he slept well, etc. This he ascribed to drinking the water, which he did to a great extent, and to this day he cannot be persuaded that his improvement was due to the change of climate and scene, out-of-door life, and rest.

DR. HENRY A. MARTIN, while in the army, found that the health of many men, who while at home had been sick and delicate, became vastly improved by the rough out-of-door life in service, but who on their return home relapsed into their former condition of ill health. Dr. Rush, he said, believed in the establishment of sanatoria, and he himself had no doubt that the success of many hydropathic institutions was due to the change of scene and life, as well as the climate, which they afforded. He had little faith in any particular



place as a resort for patients, believing that the mere change of climate was the important factor in their cure. He then cited two cases in support of this. Dr. Martin also took occasion to refer again to Carr's radial splint, which he had recently brought to the notice of the profession, and spoke of the difficulty of inspiring medical men as a body with any interest in a really good invention. He brought forward additional cases of bad results by other treatment, by straight splints, etc.

Other members of the society gave evidence of the efficacy of this splint in their hands, Drs. SEAVERNS and STREETER speaking warmly in its favor. Dr. STONE had had a fair result by its use. He said it had the advantage of being easily made, and answered its purpose well.

PROFESSOR MARKOE brought forward a sample of ergotine made in his laboratory, and remarked that Bonjean's ergotine, a preparation of ergot, is being used to a considerable extent, some physicians prescribing it under the impression that it is the true active principle of ergot. This is not so, he said, and proceeded to describe its preparation, thereby showing that it is really nothing more than the alcoholic extract of the aqueous extract of ergot. Dr. Squibb's extract, made by the evaporation of the fluid extract of ergot (U. S. P., 1860), he considered a better preparation, because made by a process less likely to injure the ergot, one grain of this representing six and a half grains of good ergot. He presented the sample to show the appearance of the article given by the process explained. He believed the fluid extract to be the best preparation of ergot, but it is unfit for subcutaneous injection owing to the presence of alcohol and acetic acid, ingredients necessary to its preparation. For that purpose the solution of the extract or of ergotine in distilled water is much better, because less likely to produce abscesses.

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#### ANNUAL MEETING OF THE NEW YORK STATE MEDICAL SOCIETY, JANUARY 15, 16, AND 17, 1878.

THE society met at Albany, as usual, on the morning of January 15th, the vice-president, Dr. A. L. Saunders, of Madison County, in the chair. According to the announcement of the secretary, Dr. William Manlius Smith, afterwards, there were present during the session one hundred and fifty-seven permanent members, delegates, and invited guests.

After prayer by the Rev. Dr. Rufus Clark, of Albany, the vice-president, Dr. Saunders, made a few introductory remarks, in which he stated that on the 20th of December he learned that the president elect, Dr. J. Foster Jenkins, of Yonkers, would be unable to serve, and that in the short interval that had elapsed since then it had been quite impossible for him to prepare an address suitable to the occasion. Having briefly spoken in a congratulatory manner of the progress that was continually being made by the profession in this and other States, and encouragingly as to the future, Dr. Saunders announced the committee on credentials as follows: Drs. N. C. Husted, E. H. Lyman, and H. N. Porter.

The secretary read a letter from Dr. Jenkins expressive of his high appreciation of the honor, but regretting that he was obliged to decline the office of

president of the society, after which the treasurer read another note from Dr. Jenkins, in which he inclosed a check for one hundred and twenty-five dollars as a contribution to the funds of the society, which was received with thanks.

The vice-president announced the names of the gentlemen to serve on the business committee and the committee of arrangements, and then, on motion of the treasurer, Dr. Porter, a series of resolutions was adopted, requiring that only permanent members and delegates who had registered and paid their dues should be allowed to vote for members of the nominating committee in the several senatorial district caucuses; that each caucus should elect a chairman and a secretary, and that each chairman should report the result of the caucus to the society in writing.

After a short recess had been taken, Dr. William H. Bailey, chairman of the committee on arrangements, reported the names of the gentlemen who were present as members by invitation, among them being Dr. William D. Lamb, of Lawrence, Mass., delegate from the Massachusetts Medical Society.

The committee on ethics was announced as follows: Drs. William C. Wey, D. B. St. John Roosa, and James Chapman.

Dr. E. R. Squibb, chairman of the business committee, having stated that according to the rules the present was not a strictly legal meeting of the society, the matter, on motion of Dr. John W. S. Gouley, was referred, with power, to the business committee.

Dr. Dimon, of Cayuga County, inquired what was to be done in regard to the proposition that had been made to secure the passage of a law providing a proper amount of compensation to medical experts when summoned as witnesses, and the matter was referred, on motion, to the business committee.

On motion of Dr. C. M. Allin, of New York, a diploma was granted to Alphonse Dagenais, the business committee having announced that his name was unanimously recommended by the censors of the Western District. The society then adjourned to meet at three p. m.

In the afternoon session the first business of importance was the report of the committee on publication, which was read by Dr. E. R. Squibb, and adopted by the society. It recommended that the dues of permanent members and delegates should be paid at the beginning of the year, and in regard to the published Transactions the following provisions: That the amount charged for the Transactions be the publisher's price until the volumes were four years old, when, if more than one hundred copies remained unsold, they might be disposed of at fifty cents per volume; that when such editions were reduced below one hundred copies the price should be raised to one dollar; and that each county society should be required to take annually a number of copies equal to five times the number of delegates such county society sends to the State Medical Society.

The committee on nominations, composed of one member from each of the eight senatorial districts, was next announced by the chair, after which Dr. Eugene Beach, of Gloversville, read the first regular paper, which consisted of the report of a case of Punctured Wound of the Stomach, with Recovery. The patient made a very narrow escape with his life, but in two months' time was quite well again.

During the same session the following papers were also read: Contribution



to the Study of Auditory Epilepsy, by Dr. Allan McLane Hamilton, of New York. (It was illustrated by a case in point, and Dr. D. B. St. John Roosa made some remarks upon it.) Penile Fistulæ in the Ante-Scrotal Region, by Dr. R. F. Weir, of New York. (Colored plates were used in illustration, and a case of successful operation was reported.) A Clinical Observation relating to Vaccination during attacks of Pertussis, by Dr. George Bayles, of New York. (The writer was of the opinion that the disease was favorably affected by vaccinia. This view was also supported by Dr. Cronin, of Buffalo, who stated that he had been in the habit of resorting to vaccination as one of the means of treatment in suitable cases of whooping-cough for the last thirty years.) Registration of Vital Statistics and Methods to be adopted to secure Desired Results, by Dr. Elisha Harris, of Auburn. (Discussion by Dr. Squibb and others.)

When the society reassembled in the evening, Dr. Edouard Seguin, of New York, presented a report of the workings of the International Medical Congress held at Geneva in 1877. He showed the priority of American physicians in the movement for obtaining greater uniformity in the practice of medicine and in pharmacy among the different nations of the world, and stated that a commission of seven had been appointed for the purpose of promoting this object, of whom two were Americans, two French, one Swiss, one Belgian, and one Norwegian.

Dr. Stephen Smith, of New York, read a report on the Use of Lister's Antiseptic Methods in Surgery, with the recital of many interesting cases in illustration. The discussion of this subject, by Drs. Weir, Hutchinson, Minor, Chapman, Wolcott, Cronin, and Squibb, occupied the remainder of the evening.

On the morning of the 16th, after prayers and the reading of the minutes, Dr. J. G. Richardson, of Philadelphia, delegate from the Pennsylvania State Society, was introduced by the chair, and made a few remarks. The names of quite a number of members by invitation were also announced.

The report of the treasurer was next in order. This showed that the society was not in a very good condition financially, and that considerable money was annually lost by the publication of the Transactions.

Dr. Squibb hoped that the plan which had now been adopted for the sale of the volumes would obviate the latter difficulty in the future.

On motion, the treasurer's report was referred to an auditing committee consisting of Drs. Govan, of Rockland, and Burr, of Broome County.

The committee on ethics then made a report on a communication from the New York County Medical Society in reference to the articles of the code of ethics on the "duties for the support of professional character," and the "duties of physicians in regard to consultations." They considered that the county societies had ample power to act in all such matters, though, of course, any decision of such society might be appealed from and referred to the state society, if desired.

The report on Codification of the By-Laws, by Dr. Hutchings, of Brooklyn, who was absent, was read by Dr. Hutchinson, and adopted by the society.

The business committee presented a series of resolutions designed to cover the technical illegality of the society's meeting at the present time of the year, which were unanimously adopted. The recommendations made in them were

as follows: That this meeting, commencing January 15, 1878, is hereby declared to be an adjourned meeting from June, 1877. Secondly, that an annual meeting be held in Albany on the date for holding the next annual meeting (the third Tuesday in June, 1878), when by a quorum, consisting of the presiding officer of this meeting, the secretary, the treasurer, and twelve other permanent members or delegates, the transactions of the present meeting shall be ratified.

In accordance with another resolution offered by the business committee, it was then voted that the regular time for holding the annual meeting of the society should hereafter be the third Tuesday of February.

The business committee next reported a resolution recommending the passage of a law providing proper compensation for the testimony of medical experts, and on motion of Dr. Mosher a committee of three, with Dr. Dimon, of Cayuga, as chairman, was elected to secure the passage of such a law.

The deaths of Drs. Dean, Hiram Corliss, and L. B. Cobb were then announced by the secretary, and after some miscellaneous business Dr. Walter B. Chase, of Windham, read a paper on Laceration of the Cervix as a Factor in Uterine Disease, which was discussed by Drs. Fordyce Barker, A. Jacobi, and H. T. Hanks.

A paper on District School Hygiene was read by Dr. Jewett, of Canandaigua, and after the reading of letters from Dr. Louis Necker, of Paris, and W. A. F. Brown, of Dumfries, Scotland, the society adjourned.

At the afternoon session the committee on hygiene reported through Dr. A. M. Bell, of Brooklyn, the editor of the *Sanitarian*.

Dr. Perkins, of Schenectady, read a paper on the Estimation of Urea, and Dr. Joseph G. Richardson, of Philadelphia, one on an Improved Method of detecting Leucæmia in its Early Stages, and for enumerating White Blood Globules.

Dr. Thomas R. Pooley, of New York, read a paper on Ischæmia of the Retina.

Dr. Arthur Matthewson read a paper on the Diagnosis of Intracranial Tumors, in the course of which he related a number of cases.

Dr. E. R. Squibb read a Note upon Hydrobromic Acid, and Dr. Goodwillie, of New York, a paper on the Salivary Glands, some of their Diseases and their Treatment. The subject was beautifully illustrated by wax models, which Dr. Goodwillie has acquired great skill in constructing.

Dr. Benedict, of Syracuse, read the report of a case of Intussusception, with Sloughing and Extrusion of a Portion of the Small Intestine, in which the patient recovered.

Dr. Giberson, of Brooklyn, read some surgical notes, with a case of Nerve-Stretching in Sciatica. In the latter the result was favorable, although it had previously resisted almost all other methods of treatment. Dr. Giberson spoke favorably of the use of nitrous oxide, and at the conclusion of his paper quite a lively discussion arose in regard to the comparative advantages and disadvantages of the different anæsthetics.

On the morning of the third day, January 17th, Dr. E. R. Squibb, president of the business committee, brought before the society a request which had been received from the Niagara County Society, that action should be taken on the following resolutions:—



“Resolved, that it is a breach of the code of medical ethics for a member of a county society, which is entitled to send delegates to the State Medical Society, and who is in the general practice of his profession, to use upon his sign or bill-heads, or in advertisements, the words, ‘Eye and Ear Infirmary,’ or ‘Oculist and Aurist.’” The resolution gave rise to a considerable amount of discussion, and was finally passed, after an amendment by Dr. Wm. H. Bailey, of Albany, to the effect that the words “general practice” should be omitted.

Dr. Bailey then presented his report as censor to the University of Syracuse, after which the nominations decided upon by the committee on nominations were read by the secretary of the committee, Dr. Fergusson. The principal ones were as follows:—

For president, Dr. D. B. St. John Roosa, of New York; vice-president, Dr. Judson C. Nelson, of Truxton, Cortland County; secretary, Dr. Wm. Manlius Smith, of Manlius, Onondago County; treasurer, Dr. Charles H. Porter, of Albany. Censors: Southern District, Drs. E. R. Peaslee and Ellsworth Elliott, of New York, and E. H. Parker, of Poughkeepsie; Eastern District, H. B. Whiton, Troy, J. L. Babcock, Albany, J. P. Shaw, Little Falls; Middle District, M. M. Bagg, of Utica, G. W. Cook, Otsego, and C. G. Bacon, Fulton; Western District, C. C. Wyckoff, Buffalo, H. Jewett, Canandaigua, and C. Green, Homer. Then followed the list of the various committees, and after that of the delegates to the state medical societies of Massachusetts, Pennsylvania, Connecticut, New Jersey, New Hampshire, Vermont, Rhode Island, and Ohio, to the Canadian Medical Society, and to the American Medical Association. The delegates to the Massachusetts Society nominated were Drs. H. P. Farnham and J. L. Banks, of New York; and the New York delegates to the American Medical Association were Drs. C. S. Wood, T. Addis Emmet, J. M. Miner, and J. W. S. Gouley. Eighteen permanent members were nominated, of whom Drs. J. H. Hinton, James R. Leaming, and D. B. St. John Roosa were from New York. Dr. Clarkson T. Collins, of Great Barrington, Mass., was nominated as an honorary member, and the following gentlemen as eligible to honorary membership: L. Auguste Mercier, Paris, Christopher Heath and J. C. Bucknill, London, H. I. Bowditch, Boston, and J. S. Billings, United States Army. The report of the nominating committee was accepted, and, on motion of Dr. Cook, the vice-president was instructed to cast the ballot for the various gentlemen nominated in it.

Dr. L. Duncan Bulkley read a paper on Diet and Hygiene in Diseases of the Skin. In connection with this a point in regard to medical ethics was raised by Dr. Squibb, as, in speaking of the subject of infant feeding, Dr. Bulkley mentioned favorably the preparations of the “New York Food Company.” After considerable discussion on the point, Dr. Bulkley stated that he was willing to omit the above name, as well as that of Nestlé, which also occurred in his paper, and, on motion of Dr. J. S. Bailey, it was voted that, “as the sense of the society, it would be wise to leave the names referred to out of the paper before it appeared in the Transactions.”

In the absence of Dr. C. S. Wood, of New York, through whom the paper had been presented, a report upon School Hygiene, from the New York Medico-Legal Society, was read by Dr. Squibb. On motion, the report was

accepted, and the thanks of the society tendered to the Medico-Legal Society through Dr. Wood.

A paper by Dr. Van Derveer, of Albany, was read by title, and referred to the committee on publication. Its subject was as follows: On a Successful Case of the Removal of a Uterine Fibroid through the Posterior Walls of the Vagina, and Electrolysis in the Treatment of Uterine Fibroids by means of Cutter's Needles.

On motion of Dr. Craig, the thanks of the society were extended to Dr. Saunders for the courteous and dignified manner in which he had presided, and, on motion of Dr. Stiles, to the Albany County Medical Society for their hospitable entertainment.

Before adjourning the minutes were read and approved, and then, on motion of Dr. Squibb, the society adjourned to meet on the third Tuesday in June, of the present year, when merely a legal quorum will assemble at Albany, for the purpose of ratifying the foregoing proceedings.

During the session of the society the following invitations were received and accepted, all for the same evening, Wednesday, January 16th:—

From the directors of the Dudley Observatory to visit the observatory.

From the Albany County Medical Society to attend a reception at the Delavan House.

From the governor of the State to attend his weekly reception.

Members of the legislature (which is now in session) who were members of the regular profession were cordially invited to attend the meetings of the society, by a special committee appointed for the purpose.

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## VIRCHOW ON POST-MORTEM EXAMINATIONS.<sup>1</sup>

THE value of an autopsy is largely due to the adoption of an exact method in its performance, and to an accurate statement of the objective results. The records of the anatomist become useful in proportion to his success in inserting only matters of actual observation, expressed in terms which permit the least possible ambiguity. The experienced anatomist is able to furnish more complete records, because his experience has taught him the additional value of negative evidence, and his training has resulted in a higher cultivation of his powers of observation.

For those, therefore, who have comparatively few opportunities of making autopsies it becomes all the more necessary that method and exact statement of appearance should be adhered to. If this be true of autopsies conducted for clinical purposes, it is all the more so in those cases where medico-legal interests are to be served. The expert who may be called upon to give an opinion as to the bearing of evidence is necessarily limited by the quantity and quality of such evidence. His opinion becomes the more weighty the freer it is from qualifications, while the latter are all the more numerous the less complete the evidence.

In the first volume of the new series of the *Annals of the Charité Hospital*

<sup>1</sup> *A Description and Explanation of the Method of Performing Post-Mortem Examinations, with Especial Reference to Medico-Legal Practice.* By PROFESSOR RUDOLPH VIRCHOW. (From the *Charité-Annalen*.) Pp. 86. Philadelphia: Lindsay and Blakiston.



in Berlin is a paper contributed by Virchow, which gives valuable information upon the general subject of post-mortem examinations. A translation appeared some time ago in the *Medical Times and Gazette*, and we take great pleasure in calling the attention of our readers to the production, in book form, of the translation. The paper serves rather as a guide-post than a guide, and although it does not call attention to every obstacle in the path, it is useful in pointing out the best way.

The importance of accuracy in description is strongly insisted upon, and some of the means of avoiding errors of observation are referred to; reasons are also given for the adoption of a certain method which long-continued experience has shown to be the best. Attention is called to the class of cases in which exceptions are permitted or necessitated, and even such apparently simple information as the holding of the knife and the means of insuring the utmost possible cleanliness is presented.

A detailed description is also given of the best manner of opening the heart and brain, organs which offer a very delicate test for determining the degree of technical skill acquired by the operator.

The author does not content himself with giving directions merely, but adds the records of three cases, which, apart from their general interest, serve as models in the way of description. Although especial reference is paid to medico-legal practice, the greater includes the less, and clinical purposes are the better served the more closely the thoroughness demanded by law is adhered to as a custom.

The style of the author is admirably preserved in the translation, and the chief thought which follows the reading of this *brochure* is the highest compliment which can be paid it,—a regret that so limited a contribution has been made from so vast a treasury.

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### ORTH'S PATHOLOGICAL ANATOMY.<sup>1</sup>

THE present volume comes indeed at a very opportune time, when the interest in pathological anatomy has become so wide spread that both student and practitioner will welcome a thorough and scientific guide book for practical post-mortem work. A few years ago Dr. Francis Delafield appreciated the need that was then felt, and prepared an excellent manual that contributed largely to the extension of our knowledge in this direction, and was indispensable as a guide for the gross part of pathological study. We have now, however, reached an epoch when the advantage and necessity of still more accurate and minute knowledge in these matters have been forced upon us in a way that certainly should be clear to every medical man. We shall have missed entirely the lesson of the Harriet Staunton affair in England if we have failed to see that pathological analysis is a specialty, just as ophthalmology

<sup>1</sup> *A Compend of Diagnosis in Pathological Anatomy, with Directions for making Post-Mortem Examinations.* By DR. JOHANNES ORTH, First Assistant in Anatomy at the Pathological Institute in Berlin. Translated by FREDERICK CHEEVER SHATTUCK, M. D., and GEORGE KRANS SABINE, M. D. Revised by REGINALD HEBER FITZ, M. D., Assistant Professor of Pathological Anatomy in Harvard University. New York: Hurd and Houghton; Boston: H. O. Houghton & Co.; Cambridge: The Riverside Press. 1878.

or the practice of surgery. We must not be surprised, then, that average practitioners, armed merely with the teachings of the ordinary schools or with the scant information about pathological changes which many of them possess, when they attempt to explain the cause of death in obscure cases, either utterly fail, or ascribe it to lesions of which the existence is in grave doubt.

It has been one of the greatest triumphs of Virchow that the practical results of his teaching in the autopsy-room have been incorporated into the new German code governing the performance of autopsies for medico-legal purposes by forensic physicians. We are glad to know that his methods have received due recognition in the present work, and in fact seem to form the basis upon which the author has rested his views in a very great measure. Dr. Orth, as Virchow's first assistant, has not only had an excellent opportunity of testing the system of his master, but, himself a teacher, has doubtless learned the practical wants of post-mortem workers.

The author's system, which is given in this volume, is founded upon the theory that all post mortems should be conducted as if for medico-legal purposes; and very properly so, for it is always impossible to tell in an autopsy whether the case may not become a matter of medico-legal inquiry. We have no hesitation in saying that the new German regulations are the most perfect in the world. We hope, indeed we feel sure, that some such system will be inaugurated in this country.

The author devotes a short chapter as an introductory to the question of instruments and the appliances for chemical and microscopical work. He then takes up all the organs of the body in the order in which they should usually be examined, giving such changes as are to be noted in the dead body. The book is a real cyclopædia, and the reviewer after reading it carefully finds that there is little to criticise, and the omissions are trivial. One might wish that we were told more about the topography of the brain, so as to be able to locate lesions more accurately. This matter doubtless belongs strictly to anatomies, and yet it is from a pathological stand-point that we are most frequently called upon to give a careful study to the brain. It cannot be amiss to state here that Dr. E. C. Seguin has appreciated this difficulty which is often felt by practitioners, and has published a sheet of Diagrams for the Study of Cerebral and Spinal Lesions, which should be in every post-mortem room, and will help much towards the localization of cerebral lesions. We may also add that we sometimes stumble across such words as *nucleus caudatus*, *auditory stricæ*, etc., that remind us how lacking our present anatomical hand-books are, and how desirable it is for those who are not "nerve-men" to have a Henle always at hand. We are also surprised and pleased that the text is not more closely sprinkled with *micrococci*, and in this respect, as well as when the author modestly expresses a different opinion from Virchow, we see that he is not only a man who has well mastered his subject, but that he has a better judgment also than some of his German confrères among the pathological anatomists. In conclusion, we cannot recommend the book too highly: the style is succinct and pleasant; it is admirably translated and revised, and should be in the hands of every physician who desires to make a thorough post-mortem examination.

T. E. S.



## HARVARD MEDICAL SCHOOL.

IN his annual report the president of Harvard University states, in regard to the medical department, that in three years the school has cleared more than twenty-five thousand dollars over and above its expenses. The credit balance, \$22,777.88, is to be reserved for future contingencies, but in the future most of the annual surplus will be applied to increase the moderate salaries of the professors. He calls attention to the fact that the percentage of persons holding literary or scientific degrees among the students of the medical school has risen to forty-four per cent.; seven years before it was but twenty-three per cent. The examination for admission to the school was held for the first time in 1877. Out of thirteen candidates who presented themselves in June, seven were admitted and six rejected; out of twenty-nine candidates in September, twenty were admitted without conditions, seven with conditions, and two were rejected. The wholesomeness of the examinations is, he thinks, manifest. The average quality of the students will be improved in this way by the fact that persons destitute of academic training will be kept out of the school. He concludes with the following remarks:—

“The example which this school set in 1871, in reforming the plan upon which medical education had been given in this country, has now been followed in part by two other prominent schools, the medical school of the University of Pennsylvania, and the medical school of the University of Michigan. The Pennsylvania school has not lengthened its term or increased its tuition fee, but has adopted the other features of the Harvard plan. The Michigan school has lengthened its term to nine months, but demands only two terms’ attendance. The action of these two schools, though not thorough-going, foretells the speedy downfall of the old system of medical education. The schools connected with universities will abandon it first, and the schools which are commercial ventures will do likewise, when public opinion has so made itself felt on this subject that it will discredit a physician or surgeon to be connected with a school which admits to the profession rude, ignorant, and unskillful men.”

From the dean’s report we find that the total number of students in attendance during the past year was two hundred and forty-seven, the number varying slightly each term. (At the time of publishing the catalogue this year, two hundred and twelve students had joined the school.) It contains a valuable schedule of the various exercises, lectures, recitations, etc., held at the school, giving in an easily comprehended form the exact amount of work done in each department during the year.

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MEDICAL NOTES.

— Dr. Edmund Randolph Peaslee died on January 21st, at the age of sixty-three years, of pneumonia, contracted by exposure resulting from unusually pressing professional engagements. He was born in Newton, N. H., was educated at Dartmouth College and graduated in 1836. He graduated from Yale Medical College in 1840. During the following year he began the practice of his profession at Hanover, N. H., and also commenced the delivery

of a series of lectures on anatomy and physiology at Dartmouth College. He became a professor of those two branches in 1842, and continued to hold that chair until the year 1870. In the year 1843 he was appointed lecturer on anatomy and surgery at Bowdoin College, and was professor of these branches, of education during the period from 1845 to 1857, when he gave up anatomy but continued to act as professor of surgery until 1860. Dr. Peaslee was appointed professor of physiology and general pathology, in the year 1851, at the New York Medical College, and from 1858 to 1860 he accepted the professorship of obstetrics in the same institution. He was elected professor of gynæcology at Dartmouth Medical College in 1872, and at Bellevue Hospital Medical College in 1874. He practiced seventeen years in Hanover, and subsequently in New York. He published a work on Human Histology and also one on Ovariectomy. His distinguished services in his specialty and his skill as an ovariectomist are well known. Our readers may remember the friendly tribute to the memory of the late Dr. Crosby from the pen of Dr. Peaslee in a recent number of the JOURNAL,<sup>1</sup> and the valuable advice to the over-worked practitioner therein contained.

— The censors of the Suffolk District Medical Society will meet for the examination of candidates on February 21st.

— Dr. L. P. Yandell, Jr., has assumed the editorship of the *Louisville Medical News* in place of Dr. Galt.

— King Louis, of Bavaria, has conferred upon Hyrtl, of Vienna, the Cross of the Commander of the Order of Merit of St. Michael.

— The first number of *The Brain*, a quarterly journal of neural pathology, edited by Drs. Bucknill, Crichton Browne, Hughlings Jackson, and Ferrier, will appear on the 1st of April.

— Professor Bacelli, of Rome, asserts that percussion of the ilium may aid in the diagnosis of (1) simple ovaritis, (2) of a commencing ovarian tumor, (3) of the side of origin (right or left) of large ovarian tumors of which the early history is unknown. The *Detroit Medical Journal* for December gives further details.

— A house-maid in Philadelphia was found to have chancre of the lip. As her reputation is unquestionable, the sore was presumed to have been communicated by the instruments of a dentist.

— Prof. Sidney A. Norton has been appointed to the chair of chemistry in Starling Medical College, Columbus, Ohio, recently vacated by Professor Wormley, now professor of chemistry in the University of Pennsylvania.

— The New York *Medical Record* says that scientific circles in that city have been startled by the recent discovery that one of their most noted opticians imports ordinary commercial lenses from Paris, remounts them after the English style, and palms them off as lenses of the best makers. The fraud was discovered by an expert, who, knowing that the objectives of Vienna, Berlin, Paris, London, and America have each in the tint of the field peculiarities by which they can with tolerable certainty be identified, was led by the color of the field of the objective in question to suspect its true character.

— Dr. Roberts Bartholow has yielded the editorial chair of *The Clinic* to Dr. James G. Hyndman.

<sup>1</sup> September 27, 1877.



— The following, according to an exchange, is the result of the measurement of over half a million of men as regards height and nativity. The mean height of the American Indian is 67.934 inches; the American white man, 67.672; Scotch, 67.066; English, 66.575; Russian, 66.393; French, 66.277; Mexican, 66.110.

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### LETTER FROM LONDON.

MR. EDITOR,— I desire to send you some notes of the last of a series of lectures in the hall of the University of London, Burlington Gardens, by Professor Burdon-Sanderson, the distinguished physiologist of University College. The subject of the hour was Animal Organisms and Antiseptic Surgery. I would preface this *résumé* by noting that a large number of prominent London gentlemen and some ladies were present; among the former Tyndall, Huxley, and others; Mr. Lister was unexpectedly absent, having gone into the country for the holidays. It will not be out of place to note that Lister's antiseptic treatment is the chief topic of interest in the surgical *salon* of London, and that a few evenings ago Mr. Tyndall, Professor Sanderson, and Mr. Lister took part in the discussion of a paper read before the Royal Society.

Professor Sanderson began with an introduction of the two theories of disease engaging the discussion of to-day, namely, that of contagium vivum, and the germ theory, and remarked that the former is in the sphere of the physician and surgeon, while the latter comes more properly within the province of the surgeon. In regard to the germ theory of disease, Volkmann, of Halle, observed at the Surgical Congress of 1874 that anti-infective treatment was a pathological success, whether the germ theory were true or false. Professor Sanderson had visited Volkmann's hospital, which was an old one in the midst of the old town, and, as the lecturer remarked, was "overlooked by an ecclesiastical building." Volkmann asked him if he had ever seen a dirtier hospital. "Yes," he said, "in London." Yet Volkmann believed from his experience in this old hospital that serous membranes could be opened without consequent suppuration. (In September, 1876, I sent you a condensed account of Professor Volkmann's new surgical hospital in Halle, which was then merely in projection.) The per cent. of improvement in the old hospital at Halle, in Munich, Innsbruck, and other places since the adoption of the *Lister'sche Behandlung* is much larger than that recorded in the few English hospitals in which it is used; for the per cent. of sepsis was much greater in the former before its adoption. It is opportune to observe here — and those who know their history will corroborate the statement — that many German hospitals were either old castles, military barracks, or lazarets. Bardeleben's surgical wards in Berlin are in an old military lazaret; the proper building of the University of Berlin was Prince Heinrich's palace; so, too, the University building at Erlangen, in Bavaria, was the residence of the Erzherzog of Bayreuth. If anything in architecture in Germany is calculated to deceive the American student, it is the external appearance of many of the hospitals and theatres.

The professor called attention to the allegation, which lately found its way from Strasbourg, that the discharges from wounds antiseptically dressed con-

tained living organisms, and was disposed to disbelieve the statement. He preferred not to take ground as yet against the possibility of the occurrence, but to quote Mr. Tyndall, who had remarked that such discharges may be "encumbered with infectivity, but are not encumbered with animal germs." In the physiological laboratory the question assumed a different phase, for these organisms could be produced only from parent germs to which they were like. As to the source of putrefactive germs, Professor Sanderson emphasized the probability of surgical instruments not being antiseptically clean, and looked forward to the day when the surgeon will desire surgically pure instruments as the chemist seeks chemically pure reagents. In respect of traumatic infectivity, he submitted two ruling guides of conduct: (1.) the avoidance of conditions favorable to the formation of germs; (2.) the avoidance of infective contamination.

The physiological question of the solubility of specific infection was stated to be an interesting one. Infectious material is soluble in the sense that it will pass through the finest filters. Albumen is said to be soluble, but in reality is in suspension. Nor is the condition of toxæmia a question of quantity. Germs or infective material are not to be measured by drachms or drops, but, so to speak, in infinitesimal doses. Filters of porous porcelain were here shown, which had been expressly constructed for filtering bacterian milk. The apparatus for the separation of the germs was at work, having in two hours filtered about two ounces of milk. Its construction is simple. An inverted glass funnel covered with a porous disc, hermetically attached by its edges to the funnel, contains the milk in which, as is known, bacterium is suspended. The casein of the milk passes out by means of mercurial pressure exercised through a long, bent glass tube, properly supported by a wooden frame; in this way the globules of air can be seen passing down the tube towards the mercury-cup, which stands on the floor. The resulting fluid in the funnel is highly albuminous and transparent, while the bacteria are lodged in the porous disc, which may be called the filtrate. The vacuum is much better than occurs in the ordinary stomach-pump, though far from perfect. The discs may be re-utilized, but must be recalcined for each trial. Brücke, of Vienna, discovered this method, and both he and Pasteur now use it. Another method of testing for organisms which are not discoverable by high powers of the microscope is that of Tyndall; namely, the analysis of a transmitted beam of light from a powerful source, as the oxy-hydrogen calcium light, by means of an achromatic lens, one of the surfaces of which will detect floating organisms in the fluid, as the ray flashes up at intervals, while the other surface will not.

In the month of October Professor Sanderson visited Dr. Koch, of Wallstein, Germany, a gentleman corresponding to the English country practitioner, whose observations had attracted his attention. They made experiments on animals, chiefly on mice and rabbits in splenic fever. The post-mortem appearances of splenic fever are like those of septicæmia, as shown by Bollinger in Ziemssen's *Cyclopædia*. Injections of splenic-fever blood five years old were made; in twenty-four hours the injected animal was moribund, and was then killed. The spleen was found filled with blood to impletion; this blood was loaded with long, curvilinear spores, like the bacilli of anthrax, crossing



each other like swords, and having the characteristically rounded cellular nucleus at intermediate points of each bacillus. It was stated that the best habitats of organisms are the blood of patients in relapsing fever and anthrax. Some remarkably delicate photographs on glass, of the discharge of anthrax which had been treated with healthy aqueous humor, taken by Dr. Koch were exhibited by aid of the calcium light; this humor is the best alkaline menstruum for the purpose; the bacillic character of germ above described was shown. The curvilinear rods, *pari passu*, grow into a felt or net-like work; then fall apart, and globular spores form in the calibre of the rod; and finally occurs a segregation of the spores, constituting the true or, perhaps better, the common bacterium. The caution was enforced that no one ought to say he has seen germs until he is familiar with the appearance and development of the splenic-fever blood germs; these exist and are real. Furthermore, vaccine virus has organisms, which Mr. Godley proved, for he cultivated them; but he was unable to reproduce them. The experiments of Heiberg, of Christiania, and of Weigert on small-pox patients were alluded to, in which not proper bacteria but dead-alive (a direct translation of Virchow's word *nekrobiosis*) organisms thrived. It is also well known that in the exudation of faucial diphtheria living micrococci exist, — that is, spheroidal bodies moving about in groups; and this aggregation is believed to be distinctive of micrococci. Diphtheria is, then, a true mycotic process. These micrococci are punctiform foci of local ulcerative processes, and develop true miliary abscesses, as in vesicular pneumonia, and ulcerative endocarditis of the mitral valves.

The following microscopic preparations were exhibited in an adjoining room, and were observed by a large number of persons.

Bacillus anthracis in blood of splenic fever of a mouse. (No. 8, Hartnack system.)

The same after twenty hours, bearing spores. (Nos. 9 and 11, immersion, Hartnack.)

Common bacteria from macerating fluid. (No. 8, Hartnack.)

Poisonous bacteria of septicæmia, two preparations, one stained, one unstained. (No. 8, Hartnack.)

Sporillus, in blood of relapsing fever. (No. 10, immersion, Hartnack.)

The staining was done with methylaniline violet, not with Hoffmann's aniline violet, ordinarily used in Germany and England. It was brought by Professor Sanderson from Breslau, where Professor Cohn found it more permanent than the other. This staining property will be a prominent element in the detection of germs; all coloring liquids will not satisfy. I remember when in Zurich with Horner, who in connection with Eberth had just completed his observations on suppurations of the cornea, that is, suppurative keratitis, ulcers, etc., with reference to the presence of bacteria, that he complained of the want of a proper coloring fluid. Hæmatoxyline is not a fast color; carmine gives no distinctive appearance to bacteria; while Ranvier's picrocarmine only made all parts of the field equally more distinct. With ordinary ammoniated carmine it was with difficulty that common bacteria and *débris* were distinguished. It is well known, however, that Horner had good reason for calling ulcerative keratitis *keratitis mycotica*, as was shown at the Heidel-

berg Congress of 1875, and his success in antiseptic treatment of these ulcers corroborates the theory. I will copy one of a few charts which were suspended during the hour, as bearing upon the subject, and will suggest that *colytic* is taken in its direct derivative sense, preventive.

TABLE I.

RELATIVE VALUE OF ANTISEPTICS. (BUCHOLTZ.)

	Colytic.	Destructive.
Chlorine,	—	2500
Thymol,	200	20
Sulphurous acid,	—	66
Salicylic acid,	66	31
Carbolic acid,	20	2.5
Alcohol,	5	0.5

Truly yours,

E. S. P.

LONDON, December 24, 1877.

## COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending January 19, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean of ten Years, '68-77.
New York.	1,093,171			24.32	28.71
Philadelphia.	876,118	314	18.64	18.50	21.54
Brooklyn.	549,438	185	17.51	21.51	25.50
Chicago.	460,000	125	14.13	17.83	22.39
Boston.	375,476	126	17.45	20.10	24.34
Providence.	104,500	45	22.38	18.81	19.20
Lowell.	55,798	17	15.84	19.09	22.50
Worcester.	54,937	22	20.83	21.07	22.30
Cambridge.	53,547	23	22.33	18.69	20.83
Fall River.	53,207	21	20.53	21.35	24.96
Lynn.	35,528	12	17.57	20.42	19.67
Springfield.	33,981	10	15.31	16.04	19.77
Salem.	27,140	11	21.07	20.38	21.15

OBITUARY. — Dr. Benjamin Haskell died recently at Rockport. He was born in that town, received his education at Amherst, and took his medical degree at Bowdoin College. He began practice some forty years ago. He was at the time of his death the oldest physician and the longest in professional life on Cape Ann. His funeral was largely attended by prominent men and professional colleagues.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — At a meeting of the society to be held on Monday evening next, at eight o'clock, at its rooms, 36 Temple Place, Dr. Post will read a paper upon a Case of Cerebral Syphilis.

BOOKS AND PAMPHLETS RECEIVED. — The Obstetric Forceps, an Improvement in their Construction. By J. A. McFerran, M. D. Philadelphia. 1877.

Report of the Surgeon-General of the Navy to the Secretary of the Navy for the Year 1877. Washington: Government Printing Office. 1878.

Seventh Annual Report of the Board of Directors of the Children's Hospital of the District of Columbia. Washington. 1878.

House-Air the Cause and Promoter of Disease. By Frank Donaldson, M. D. (Maryland State Board of Health Report.) Baltimore. 1878.



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## LECTURES.

### THE DIAGNOSTIC VALUE OF THE "OVARIAN CELL."

A LECTURE DELIVERED IN THE NECROPSY THEATRE OF COOK COUNTY HOSPITAL, CHICAGO, BY PROF. I. N. DANFORTH, NOVEMBER 19, 1877.

[REPORTED BY B. W. GRIFFIN, M. D.]

THE specimens which I show you this evening are of more than ordinary interest. I will describe and exhibit them to you, and then a history of the case from which they were derived will be read. Afterwards I shall call your attention somewhat at length to this question: What is the true diagnostic value of the so-called ovarian cell? I shall discuss this now for reasons which will become apparent as we proceed.

This first specimen is an excellent example of what is generally known as a "cystic kidney." It is really a case of hydronephrosis or dropsy of the kidney, and the specimen before you is quite typical. The kidney is distended so as to form an irregular membranous sac, divided imperfectly into these compartments by the remaining septa, composed mainly of hypertrophied connective tissue. The contents of this distended kidney consisted of pale or yellowish, somewhat cloudy or turbid serum. After standing for a few hours, this fluid separated into two very sharply defined parts, namely, a dense grayish deposit, and a supernatant serous fluid, which was quite clear and slightly yellow. This dropsical kidney was mistaken for a cystic ovary, and as such was removed by operation by Dr. A. Reeves Jackson, of this city, who kindly permits me to use the specimen, and to mention his name in connection with the case.

The next specimen includes the uterus, a portion of the vagina, a part of the bladder, the broad ligament or its remains, both Fallopian tubes, and both ovaries from the same patient. These parts are in a nearly healthy condition, with the exception of the ovaries, which are both in the early stage of cystic degeneration.

Dr. D. A. K. Steele is present in behalf of Dr. Jackson, who is sick, and will read a history of the case.

[The following is a synopsis of the history read by Dr. Steele.]

"M. D., single, American woman, twenty-six years of age; menstruation regular until eight years ago. Then the menstrual flow ceased for one year (between the ages of eighteen and nineteen), after which it was reëstablished. Abdomen has been gradually enlarging during last five years. Patient complains of sensations of heat and pain in the lower part of the abdomen. Urinates frequently and rather copiously. She was examined while under ether, and a tumor was found occupying the right lumbar and hypochondriac regions, apparently extending into the pelvic cavity. The tumor was entirely disconnected from the uterus. By means of an aspirator, six ounces of a thinnish, glairy, colorless fluid were drawn off through the abdominal wall. Some of this fluid was submitted to the inspection of Dr. I. N. Danforth, who stated that it contained the cell known as 'ovarian.' The tumor was diagnosed as a *cystic tumor of the right ovary*. An operation was performed by Dr. A. Jackson, and the tumor was extracted. On the afternoon of the day following the operation the patient died. A post-mortem examination of the body was made by Dr. Steele one and a half hours after death. The pedicle of the tumor was found to consist of the renal artery, vein, and nerves. The vessels were rather smaller than normal. The right ureter was filled with a thick, cheesy, purulent matter. No connection was found between the cyst and the ovary. It was a degenerated cystic *right* kidney that was removed. On the *left* side was an ovarian cyst about four and a half inches in diameter. The right ovary was also notably enlarged, and contained a cyst about the size of a walnut. The uterus was normal in size and appearance, and the fundus uteri was adherent to the left ovarian cyst. The left kidney and ureter were enlarged to nearly twice their natural size. The pyramids were fairly defined, and the medullary portion presented a granular appearance, and was somewhat paler than usual. The tissues on the right side of the pelvis were indurated as though there had been a previous inflammation in that region."

Having disposed of the case before us, let us now return to the consideration of the ovarian cell. So far as I am aware, this cell was first brought to the notice of the profession in connection with ovarian cysts, by Dr. Thomas M. Drysdale, of Philadelphia, in an essay published in Dr. W. L. Atlee's book on Ovarian Tumors. Dr. Drysdale says that the "ovarian cell is generally round but sometimes a little oval in form, is very delicate, transparent, and contains a number of fine granules, but no nucleus;" and, "This ovarian granular cell I consider as diagnostic of ovarian dropsy, and have seldom failed to find it in this fluid, except in some of the earlier cases, where it probably existed, but was overlooked from inexperience in the examination of these specimens." (Page 460.)



You will observe that Dr. Drysdale, according to the language quoted, regards the granular ovarian cell as "diagnostic of ovarian dropsy," and in this conclusion Dr. Washington L. Atlee — perhaps the greatest of American ovariologists — fully coincides. Nevertheless, with the experience gained from Dr. Jackson's case before me, I think I am fully warranted in saying that the ovarian cell cannot be regarded as infallible. During the past three or four years, I suppose I have examined from fifteen to twenty specimens of ovarian fluid for different surgeons. I have, therefore, acquired a considerable degree of familiarity with the microscopic appearances of the "granular ovarian cell," and, I think, may fairly claim to be capable of recognizing it when I see it. At all events, if the appearances of the ovarian cell are not so pronounced that a microscopist of fair experience can recognize it after having seen it fifteen or twenty times, its practical diagnostic value must be exceedingly small.

So far as my experience goes, it is fully in accord with that of Dr. Drysdale in this: that there is generally — and probably always — present in the fluid found in ovarian cysts the peculiar granular cell described by him. I have found it in every specimen of ovarian fluid which I have examined, and on physiological or pathological grounds alone I should always expect to find it. If we could add that it is never found in any other pelvic or abdominal cyst, its diagnostic infallibility would of course be established. But we are compelled to make a very decisive exception, so far at least as the cystic kidney is concerned. Upon examining the fluid which Dr. Jackson sent me I found numerous very typical specimens of the granular ovarian cells; they presented the usual microscopic appearances, and the usual behavior in the presence of reagents. In fact they *were* the well-known granular cells which have come to be regarded as so important by many ovariologists. Hence I had no hesitation in saying to Dr. Jackson that *if* the ovarian cell were a sure indication of ovarian cyst, his case was of that nature.

I have never been able to see *why* a diseased ovary should be endowed with the power of producing a cell unlike any other cell produced by organs of similar origin and structure; and unless such a power be granted, the granular ovarian cell cannot be regarded as infallibly diagnostic.

What is the ovarian cell? Since it must in some way be derived from or formed within the ovarian cyst or cysts, we must first ask, Whence come ovarian cysts? Without entering into an exhaustive discussion of the matter, I will simply say that to me the weight of evidence points strongly to the conclusion that ovarian cysts are almost always — if not always — the result of changes which take place in the Graafian follicles, or, as Peaslee more correctly calls them, vesicles. These vesi-

cles are lined with their own peculiar epithelial cells; which have their special duties to perform during the process of ovulation. But if, in place of normal ovulation, we have a process of cystic degeneration, these cells seem to multiply more rapidly than usual, and degenerate faster; that is, they undergo a process of what, I think, may be called, on correct pathological grounds, acute fatty degeneration. Hence they are "granular" cells, that is, they are rapidly converted by fatty metamorphosis into granular masses or masses of granules. Therefore they vary in size and form, agreeing only in this, that they are always granular. Hence, also, they are, as Drysdale says, without nuclei, because so rapid and general is this process of fatty metamorphosis that the nucleus is almost always destroyed. It is, however, true that sometimes the outlines of the nucleus, in a more or less granular condition, may be made out by the use of carmine which is quite freshly prepared, or, as the chemists would say, "nascent" carmine. The "granular ovarian cells," then, are probably nothing more nor less than the epithelial cells of the Graafian vesicles, which have been cast off prior to their complete development, and have undergone rapid fatty metamorphosis. Their extreme delicacy and transparency are doubtless due to the fact that they are so constantly immersed in the albuminous ovarian fluid which so closely resembles serum. It is well known among practical histologists that serum is a most admirable medium for the purpose of rendering cells transparent. The ovarian cysts, then, you will observe, are the distended Graafian vesicles, surrounded by a greater or less amount of the fibrous stroma of the ovary, — also distended and thinned, — and containing multitudes of their own epithelial cells, in various stages of growth, but always granular from fatty degeneration.

Now, in the so-called cystic kidney we have essentially the same state of things. The kidney is mainly composed of tubes which are coiled up and packed away so as best to economize space. These tubes are lined by epithelial cells which are very like those which line the Graafian vesicles. Indeed, the epithelial cells of both the ovarian vesicles and renal tubes were originally derived from the same source, namely, an in-folding or separation of a group of cells from the middle layer of the germinal membrane, at a very early period of intra-uterine development. Hence they are both subject to essentially the same laws of growth or development, and, presumably, under similar pathological conditions, the same laws of degeneration and decay; and I think a knowledge of this fact alone ought to lead us to anticipate the results already described. In hydronephrosis — which you must not confound with pyonephrosis or cystic degeneration of the secreting portion of the kidney — we have a slow but gradually increasing retention of the urine, caused by some obstacle which partially interferes with its escape



through the ureter. There are various sources of partial retention known to pathologists which I cannot now stop to describe, but the consequences are always the same; the urine is formed a little faster than it escapes, and hence the pelvis of the kidney is gradually distended. In the next place the pyramids are pushed back, the calyces are distended, and the whole organ becomes a lobulated sac. In other words, it is gradually unraveled, so to speak, and made to retrace the steps by or through which it was developed, and we have as a result an enlarged model of the lobulated foetal kidney, or a pattern of the kidney of the lower mammals. Meantime the circulation is partially arrested by pressure, nutrition is impaired, and there follows fatty degeneration of the epithelial cells of the compressed and wasting tubuli, as a simple and necessary pathological sequence. Meantime, also, the renal vein being more easily compressed than the renal artery, we have mechanical congestion of the Malpighian tufts, and the consequent transudation of serum; hence, "dropsical" kidney. Now, if the fluid from a well-marked and uncomplicated case of hydronephrosis be examined, we shall find that it contains granular cells precisely like the ovarian cells; in fact, in Dr. Jackson's case their identity with the true ovarian cells was perfect. I am able to speak with confidence on this point because only a couple of days after receiving the kidney from Dr. Jackson I had an opportunity of examining a specimen of veritable ovarian fluid, and of comparing the genuine ovarian cells with those found in the dropsical kidney.

In estimating the diagnostic value of the ovarian cells, therefore, we must remember that similar cells are found in cystic kidneys, and that we must be on our guard against mistaking a distended kidney for ovarian dropsy. I know of no other organ likely to be mistaken for an ovary, or in that region of the body from which such cells could be derived, so that it is probably safe to say that the "granular ovarian cell" is certainly diagnostic of either a cystic kidney or a cystic ovary.

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## NOTES ON CONTRIBUTIONS TO THE ARMY MEDICAL MUSEUM BY CIVIL PRACTITIONERS.

BY GEORGE A. OTIS, M. D.,

*Assistant Surgeon United States Army, Curator of the Army Medical Museum.*

THE first official notice of the collections constituting the Army Medical Museum appears in Circular 2 of the War Department, Washington, May 21, 1862. Here medical officers of the army "are directed diligently to collect and to forward to the office of the surgeon-general all specimens of morbid anatomy, surgical or medical, which may be regarded as valuable." On January 10, 1863, Surgeon J. H. Brinton, U. S. V., printed a catalogue compiled

by Assistant-Surgeon W. Moss, U. S. V.,<sup>1</sup> with brief descriptions of 985 surgical and 106 medical specimens. Soon after the conclusion of the war the collections for the museum had so greatly augmented that it became necessary to revise their classification. Instituted primarily for the collection and preservation of specimens illustrating the injuries and diseases that produce death or disability during war, and thus affording materials for precise methods of study of problems regarding the diminution of mortality and alleviation of suffering in armies, the museum had received contributions relating to collateral subjects. Many pathological specimens not specially pertaining to military medicine or surgery had been donated. Many preparations of human and comparative anatomy had been received, a cabinet of microscopical preparations had been accumulated, models and drawings of hospitals, medical and surgical instruments and appliances in great variety, and many objects of ethnological interest had been contributed. Hence the surgeon-general directed the subdivision into six sections: (1) surgical, (2) medical, (3) microscopical, (4) human anatomy, (5) comparative anatomy, (6) miscellaneous. In 1866 quarto printed catalogues were published of the surgical,<sup>2</sup> medical,<sup>3</sup> and microscopical<sup>4</sup> sections, and, in 1876, check lists were printed of the sections of comparative<sup>5</sup> and human anatomy.<sup>6</sup> At the date of the surgeon-general's last annual report, June 30, 1877, the museum contained 19,797 specimens. The medical section with 1376 specimens, microscopical with 7525, and comparative anatomy section with 1824 specimens were in charge of Surgeon J. J. Woodward, U. S. A., and the surgical section with 6776, anatomical with 1816, and miscellaneous with 480 specimens in charge of Assistant Surgeon G. A. Otis, U. S. A., curator.

Of late years surgeons in civil practice have largely contributed to the museum, and it is purposed to avail, from time to time, of the hospitable pages of the *JOURNAL* to illustrate by selections from their donations how gratefully they are received. This first installment shall comprise some important surgical observations:—

<sup>1</sup> Moss (W.), *Catalogue of the Army Medical Museum*, Surgeon-General's Office, January 1, 1863. Octavo, pp. 58. Washington: Government Printing Office.

<sup>2</sup> *Catalogue of the Surgical Section of the United States Army Medical Museum*. Prepared under the direction of the Surgeon-General U. S. Army by Alfred A. Woodhull, Assistant-Surgeon and Brevet-Major U. S. Army. Washington: Government Printing Office. 1866. 4to. Pp. 664, describing 4719 specimens.

<sup>3</sup> *Catalogue of the Medical Section of the United States Army Medical Museum*. Prepared under the direction of the Surgeon-General U. S. Army, by Brevet-Lieutenant-Colonel J. J. Woodward, Assistant-Surgeon U. S. Army, in charge of the Medical and Microscopical Sections of the Museum. Washington: Government Printing Office. 1867. 4to. Pp. 136, describing 877 specimens.

<sup>4</sup> *Catalogue of the Microscopical Section of the United States Army Medical Museum*. Prepared under the direction of the Surgeon-General U. S. Army, by Brevet-Major Edward Curtis. Washington: Government Printing Office. 1867. 4to. Pp. 161, describing 2120 specimens.

<sup>5</sup> *List of the Skeletons and Crania in the Section of Comparative Anatomy of the United States Army Medical Museum*. By Dr. H. C. Yarrow. Washington, D. C. 1876. 8vo. Pp. 52.

<sup>6</sup> *Check List of Preparations and Objects in the Section of Human Anatomy of the U. S. Army Medical Museum*. By Brevet-Lieutenant-Colonel G. A. Otis, Assistant-Surgeon U. S. Army. Washington. 1876. 8vo. Pp. 135.



CASE I.—*Excision of the Head and Upper Third of the Right Femur for Coritis and Caries*, by HUNTER MCGUIRE, Professor of Surgery in the Medical College of Virginia. The pathological specimen represented in the adjacent wood-cut (Figure 1) was contributed to the Army Medical Museum by the operator, January 3, 1873, and is numbered 6217 of Section I., the surgical section of the museum. Dr. McGuire forwarded with the specimen memoranda including letters from the patient, giving a history of his ailment, and notes by the clinical clerk of the hospital. Benjamin L. Davis, a farmer, of Ashmoore Post-Office, Southampton County, Virginia, aged thirty-seven years, of large frame, and formerly of robust development, wrote to Dr. H. McGuire, October 1, 1872, as follows: "I have been afflicted with disease of my right hip and thigh nearly three years. I thought it was rheumatism. I have had several doctors to tend me, and none have done me more than little good. My leg has shrunk away considerably from the hip downwards. I have been unable to walk without crutches for nearly two years, and I have suffered great pain at times. In January, 1872, a rising made its appearance on the thigh, about three inches below the hip-joint, which has been discharging yellowish, watery matter, and sometimes hard lumps of matter streaked with blood and sometimes clotted like cold bruised blood. Several pieces of bone have been discharged through the opening below the hip-joint. The largest piece is about the size of the little finger, and nearly a quarter of an inch thick. The doctors tell me I ought to go to some hospital and have my leg split open and the bone scraped, and they think by these means I would get well. They say it ought to be done by a surgeon experienced in such cases, but I do not know what would be best, and hope that you will give me your best and kindest advice on the subject. I am certainly in great need of relief. Please answer this letter as soon as you get it, and remember I shall need mighty good attention, or I shall not be able to stand my suffering. Let me know if you can do me any good, and if you conclude to take the case, tell me the terms at your institution, with directions, so that I can find you."



(FIG. 1.) Excised upper extremity of necrosed right femur.

Early in November Mr. Davis arrived at the Infirmary, in Richmond, attached to the Medical College of Virginia. He was placed on a good regimen, and carefully prepared to undergo the operation of excision of the upper portion of the right femur. The clinical clerk notes: "On November 18th the patient was anæsthetized by chloroform, and the head and seven inches of the upper extremity were excised by Professor Hunter McGuire. The operation lasted one and a half hours. The wound was dressed with dilute carbolic acid in olive oil, one part to forty, and oakum. It was impracticable to straighten the limb on account of the contraction of the knee and the intense pain induced by attempts at extension.

"The limb was placed and supported by small bran cushions. Reaction soon came on. The pain following the operation was intense and continuous, though allayed by sulphate of morphia in half-grain doses, administered by the stomach at first, but more effectually afterwards by the same drug injected hypodermically, the dose being increased to three fourths of a grain, which gave comparative ease for three or four hours, when the patient would sleep, and a repetition of the anodyne would be required. Whisky was administered every half hour at first, and then every hour, until it was ultimately rejected altogether.

"November 19th, the patient suffered greatly with nausea, the stomach rejecting everything. Pulse 130. Morphia solution administered hypodermically, three quarters of a grain every four hours. Considerable bloody serum discharged from the wound. November 20th. Patient more comfortable. Half-grain doses of morphia every six hours. Nausea persistent; patient craves only ice-water. Outer dressings removed, wound cleansed, and dressings renewed. Discharge from wound diminishing. Had some good sleep during the previous night. Frequent liquid alvine evacuations were troublesome in the forenoon. Starch and laudanum injections were ineffectually administered, and in the afternoon dilute sulphuric acid with fluid extract of opium was given every four hours, and hypodermic injections of morphia were continued. November 21st. Patient improved; pulse 90; nausea less; diarrhœa. Took brandy at noon, and chicken soup. The anodynes were repeated when necessary. The local dressings were renewed. November 22d. Patient rested better; pulse 90; stomach retains food, including eggs, milk, and beefsteak. Diarrhœa still un-

checked, but less troublesome. Morphia, in half-grain doses, and brandy were administered thrice daily or oftener. November 24th. Patient improved. In the last forty-eight hours less irritable. Local and general treatment continued. November 25th. Pulse averages 90 in the forenoon, 100 in the evening. Appetite good; wound washed and dressed with carbolyzed lotions. Much excoriation of left buttock, to which applications of lime-water and lard were made. November 26th. Restless; anorexia; pulse 110. Increased the amount of anodyne medicine. November 27th. Great mental depression. At noon the pulse increased in rapidity, counting 150; whisky or brandy was given every two hours with milk. Glycerole of bismuth was applied to the left buttock. A pill of sulphate of iron and quinine and a draught with arsenite of potassa ordered every four hours. November 28th. Erysipelas invaded the wound. It is dressed with lime-water and lard. A bed-sore on the left buttock is dressed with bismuth. Great restlessness, and the morphia has to be repeated every two hours. Quinine and Fowler's solution were administered. Erysipelas dressed with white of egg, corrosive sublimate, and morphia. November 30th. For the last few days the patient was quiet only when under the influence of morphia. The mind was wandering, the abdomen tympanitic. There was copious expectoration of a dark mucous fluid. The patient sank, and died at six of the evening of November 30, 1872."

The specimen shows destruction of the articular cartilage and great erosion of the head of the femur. Evidences of grave osteitis extend far down the shaft. There was extreme rarefaction of the cancerous structure of the shaft, and it was so light that on maceration it even floated in pure sulphuric ether. The total weight of the excised portion of the bone was two ounces and eighty-six grains avoirdupois.

The next case has not been previously formally recorded, though I casually alluded to it in a foot-note at page 283 of Circular No. 3, S. G. O., 1871. In my report on Amputations at the Hip-Joint in Military Surgery, in 1867, I urged the propriety of classifying these operations into the four groups of primary, intermediary, and secondary operations, and reamputations. It was held that disarticulations at the hip succeeding prior amputations in the continuity of the thigh, or ablations of thigh stumps, differed widely in the risk attendant on them, and that the term reamputations, if awkward, was unlikely to be misunderstood. An analysis of Guthrie's Ciudad Rodrigo case, and of the seven reamputations at the hip practiced during the Crimean war, — six after amputations for shot fractures and one after a bayonet stab at the knee, — showed that the fatal results in four of the cases arose from generally avoidable causes, and that, in military surgery, a favorable result of reamputation at the hip might be usually anticipated, since the operation removed a source of irritation. After the reamputation at the hip in the case of Fabry, 4th U. S. artillery, in May, 1870, a pensioner who now enjoys robust health, Dr. Lincoln, who assisted me in that operation, concurred with me in the belief that the proceeding might have been less perilous if the exarticulation had been effected as in excision of the upper extremity of the femur, respecting the femoral and gluteal vessels. In Fabry's case, the huge involucrum, studded with massive osteophytes and enveloped with thickened periosteum, presented difficulties for such a proceeding, but it was thought that in most of the examples of necrosis of the femur following osteomyelitis the plan of enucleating the bone without disturbing the more vascular soft parts would be feasible.

CASE II. — *Amputation at the Right Hip-Joint after Prior Amputation at Mid-Thigh for Shot Fracture of the Femur*, by DR. N. S. LINCOLN, of Washington. Private W. Cotter, of Co. E, Ninth New Hampshire Volunteers, aged twenty-seven, was wounded at Petersburg, July 30, 1864. Surgeon J. Harris, Seventh Rhode Island, recorded a shot fracture of the lower third of the right thigh, for which primary amputation was performed. The patient was removed the next day to the field hospital at City Point, and thence, on August 3d, to



Douglas Hospital, at Washington. Assistant-Surgeon W. F. Norris, U. S. A., noted the supervention of osteomyelitis, which resulted in the formation of a cylindrical sequestrum nearly six inches long, numbered 252 Army Medical Museum, and indicated in the left-hand figure of the three specimens shown in the wood-cut (Figure 2). This was removed on November 29th. A large involucrum remained, and a persistent fistula which refused to be entirely closed. On November 2, 1865, the patient was transferred to Harewood Hospital, and subsequently to the Washington Post Hospital, where, on June 6, 1866, Assistant-Surgeon W. Thomson, U. S. A., finding it impossible to close the sinuses leading to the hyperostosed



(FIG. 2.) Patient after reamputation at the right hip.

extremity of the femur, resected two inches of the bone (Specimen 4954, Army Medical Museum) the right of the three specimens shown in the wood-cut. The wound healed kindly, but with the same interminable fistulous track. On October 15, 1866, the probe still led to necrosed bone at the extremity of the femur, and the patient was discharged and pensioned. The following year the patient was stationed for a time at Bellevue Hospital, New York, where he stated that Dr. H. B. Sands and Dr. F. H. Hamilton at different times removed portions of necrosed bone. On October 5, 1871, the pensioner Cotter entered the Providence Hospital, Washington, and on October 15, 1871, Dr. N. S. Lincoln exarticulated the head, neck, and trochanters, with what remained of the shaft of the femur, represented in the middle of the specimens shown in the wood-cut. The femoral vessels were respected, so that the disarticulation might be said to have resembled an excision rather than a reamputation. The patient was able to be about in a short time, and, on April 22, 1872, he visited the Army Medical Museum, and a photograph was made of the stump, which is copied in the adjoining wood-cut drawing (Fig. 2). Subsequently, the pensioner entered the National Military Asylum at Elizabeth City, Virginia. Examiner McDermott certified that there were occasional abscesses about the cicatrix, impairing his health by the constant irritation and drain upon the system. Cotter died at Queenstown, Ireland, January 21, 1874, while on a furlough from the asylum, nearly ten years after the reception of his injury.

There are thirty-two recorded examples of reamputations at the hip, with eighteen recoveries and fourteen deaths, or a mortality-rate of 43.7. Sixteen may be classified as disarticulations for traumatic and sixteen for pathological causes.

Eleven cases belong to military surgery ; of these, nine succeeded amputations in the thigh for shot fracture, namely, Guthrie's, 1812, G. Buck's, 1864, Hassenberg's, 1864, and Whitecomb's, 1866, fatal cases, and Packard's, 1865, Fauntleroy's, 1865, T. G. Morton's, 1866, Otis's, 1870, and Lincoln's, 1871, recoveries. Two disarticulations at the hip succeeded amputation for stabs in the knee-joint, — A. Mott's, 1864, successful, Fayrer's, 1867, fatal.<sup>1</sup> Five exarticulations followed amputations for bad fractures of the femur, namely : Syme's, 1848, Roux's, 1859, recoveries ; Heyfelder's, 1861, fatal ; Fayrer's, 1864, recovery ; Fayrer's, 1865, fatal.<sup>2</sup> There were eight exarticulations following amputations for ositis, osteomyelitis, caries or necrosis, the causes of the original mutilation being sometimes undefined, namely : A. Cooper's, 1824, Bradbury's, 1851, Beck's, 1856, and Roser's, 1857, successful ; and Textor's, 1851, Chelius's, 1853, Heyfelder's, 1854, and Hancock's, 1860, fatal.<sup>3</sup> There were also eight exarticulations following amputations for malignant or heterogeneous growths, namely, Mayo's, 1835, Boisseau's, 1841, W. S. Cox's, 1844, Van Buren's, 1850, Gros Clark's, 1866, recoveries ; and Chelius's, 1845, Volkmann's, 1868, Lister's, 1872, fatal cases.<sup>4</sup>

The formation of vesical calculi about gunshot projectiles that have lodged in the bladder is a rare complication that has been noticed since early times. Dionis, Cheselden, and others, have recorded examples of such concretions removed by lithotomy. Perhaps the earliest instance is recorded by Covillard, and dates from 1633. In 1850, Mr. J. Dixon (*London Med.-Chir. Trans.*, vol. xxxiii., p. 199) was able to enumerate sixteen cases of vesical calculi removed by lithotomy, and three in which they were found in the bladder after death. In vol. ii. of part ii. of the *Medical and Surgical History of the Rebellion*, pp. 269–299, a number of analogous instances are described, and many of the specimens are figured. A large phosphatic calculus from a soldier, shot through the sacrum at Gettysburg eight years previously, was successfully removed in November, 1871, by Dr. Samuel Cabot, of Boston, and is now preserved in the cabinet of the Society for Medical Improvement, and a full description is printed in the proceedings of the society in this JOURNAL for 1872, vol. ix., N. S., page 169. To the collection of the Army Medical Museum, already rich in such specimens, the following has recently been added :

<sup>1</sup> Guthrie's case is recorded in his *Treatise on Gunshot Wounds*, 3d ed., London, 1827, p. 332 ; and the cases of Buck, Hassenburg, Whitecomb, Packard, Fauntleroy, and Morton in Circular 7, S. G. O., 1867, pp 47–55. Otis's and Lincoln's in Circular No. 3, S. G. O., 1871, p. 215 and p. 283 ; A. Mott's in Hamilton's *Treatise on Military Surgery*, 1865, p. 629, and Fayrer's in the *Med. Times and Gaz.*, 1867, vol. ii., p. 483, and Fayrer's in *Clin. and Path. Obs. in India*, London, 1873, p. 489 ; Packard's case is also recorded in *New York Med. Jour.*, 1865, vol. ii., p. 165 ; Fauntleroy's in *Richmond Med. Jour.*, 1866, vol. i., p. 7 ; and Morton's in *Am. Jour. Med. Sci.*, 1866, vol. iii., p. 17.

<sup>2</sup> Syme's case is recorded in *Edinb. and Lond. Monthly Jour.*, 1848 ; Jules Roux's in *Gaz. hebdom. de Paris*, 1860, pp. 292 and 297 ; Heyfelder's in *Deutsche Klinik*, 1862, S. 275 ; Fayrer's two cases in *Clin. and Path. Obs. in India*, 1873, p. 489.

<sup>3</sup> A. Cooper's case was first published in *London Lancet*, 1824, vol. ii., p. 96 ; Bradbury's in *Boston Med. and Surg. Jour.*, 1852, vol. lxvi., p. 349 ; Beck's in *Deutsche Klinik*, 1856, No. 47 ; Roser's in *Thieme's Diss.*, Leipzig, 1867, p. 9 ; Textor's in *Esche's Diss.*, Würzburg, 1863 ; Chelius's in *Thieme's Diss.*, Leipzig, 1867, S. 8 ; Heyfelder's in *Thieme's Diss.*, Leipzig, 1867, S. 8 ; and Hancock's in *London Lancet*, 1860, vol. i., p. 319.

<sup>4</sup> Mayo's case is reported in Costello's *Cyclopædia of Surgery*, 1841, vol. i., p. 182, and S. Cooper's *Dict. of Pract. Surgery*, 8th ed., 1861, p. 117 ; Boisseau's in *Metz's Diss.*, Würzburg, 1841, S. 17, and Schneider's *Diss.*, Würzburg, 1848, S. 14 ; W. S. Cox's in *A Memoir on Amp. at the Hip-Joint*, London, 1845 ; Van Buren's in *Contrib. to Pract. Surg.*, Phila., 1865, p. 10 ; Gros Clark's in *London Lancet*, 1867, vol. i., p. 11 ; Chelius's in *Bruch, Die Diagnose der bösartigen Geschwülste*, Mainz, 1847, p. 3 ; Volkmann's in *Deutsche Klinik*, 1868, p. 388, and Völtnner's *Diss.*, Halle, 1868, and Lister's in *Reyher's Ueber die Lister'sche Wundbehandlung*, in *Langenbeck's Archiv*, B. xvii., p. 516.



CASE III. — *Successful Lithotomy for the Removal of a Vesical Calculus having a Fragment of a Musket Ball as its Nucleus*, by HENRY F. CAMPBELL, of Augusta, Georgia. The subject of this operation was private W. B. Griffen, a Confederate soldier, of a South Carolina regiment. He was wounded July 3, 1863, at the battle of Gettysburg. He returned to Abbeville District after the war, and remained there till operated on for the removal of the stone, January 22, 1868, a period of over four years and a half. The patient was the subject of a shortened and distorted union of a fracture in the upper part of the right thigh, produced by a minie-ball, and had suffered from symptoms of vesical irritation and more or less trouble in passing water from the first moment of the reception of the wound. A large portion of the distorted ball was removed from the neighborhood of the fracture by the field surgeons at the time the case was first examined. When I removed the ball by lateral operation its weight was four and one half ounces. The composition of the concretion is supposed to be mainly phosphate of lime. This patient left the hospital at Augusta, perfectly well, in twenty days, and returned to his plowing forty days after the operation. The edge of a flattened ball was found exposed on the under surface of the irregularly shaped concretion. I think that the lead was arrested in the neck of the bladder, and that the concretion deposited about it in that situation; hence the stone was partly in the bladder and partly projecting into the neck of the viscus.



(FIG. 3.) Section of a vesical calculus formed about a fragment of a musket ball. Specimen 6732, Army Medical Museum,  $\frac{1}{2}$ .

Vesical calculi having nuclei of bone fragments are also very rare. Since the late civil war in this country, three instances have been reported in which bone splinters driven into the cavity of the bladder have been found to be the nuclei for depositions of calcareous matter, forming concretions that were successfully removed by lithotomy (*Med. and Surg. Hist. of the War of the Rebellion*, vol. ii., part ii., pp. 277, 278.) The specimen from a fourth case has been contributed to the Army Medical Museum, by Dr. Henry F. Campbell.

CASE IV. *Successful Bilateral Lithotomy for a Vesical Concretion with a Fragment of Bone as a Nucleus*, by HENRY F. CAMPBELL, of Augusta, Georgia. The subject of this operation was Colonel M. J. Crawley, of Holcomb's Legion, a South Carolina Confederate regiment. "He was wounded in action near Malvern Hill, July 28, 1864. The ball entered in front, somewhat to the left of the symphysis pubis, perforating the body of the bone and traversing the bladder, and passed out near the fold of the left buttock. At the time of examination, September 26, 1868, there was great vesical irritation. Very little urine passed by the urethra; nearly all was discharged through the fistulous track of the ball which had traversed the pelvis. This track had been open almost continuously since the receipt of the wound. He seemed to have a fair degree of control of the urine, and did not pass water through the fistulous track until, in his own language, "he was called on to void it." His youngest child was some months over four years of age. On September 28, 1868, Dr. Henry F. Campbell removed the calculus. A section of the concretion, half the size of nature, is represented in the adjacent wood-cut (Figure 4). The nucleus was found to consist of a spiculum of laminated bone detached from the pubic wall and imbedded in concentric layers of magnesian phosphate. Four years and two months had elapsed from the date of the reception of the injury until the operation. Secondary hæmorrhage occurred on the tenth day, but was arrested by pressure. The patient recovered rapidly. Virility was restored, and he became the father of another child within one year after removal of the stone. The notes above given are briefly compiled from the manuscript of a paper on lithotomy and the pathology of the calcenous diathesis which I had prepared for the Centennial Medical Congress. I submitted a synopsis of my paper, but did not get it ready for publication in the *Transactions*. If it is ever published anywhere I will take pleasure in sending to the National Medical Library a full report of my forty or fifty cases of lithotomy."



(FIG. 4.) Vesical calculus formed about a nucleus of bone. Specimen 6733, Army Medical Museum,  $\frac{1}{2}$ .

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## RECENT PROGRESS IN MEDICAL CHEMISTRY.

BY E. S. WOOD, M. D.

## URINARY CHEMISTRY.

*Indican.* — H. Senator<sup>1</sup> has published the results of numerous estimations of the amount of indican in the urine in various diseases.

The method employed for estimating the indican was not the tedious one of Jaffé, but a much simpler and shorter one, a combination of the methods recommended by Jaffé and Stockvis. It is performed in the following manner: to ten or fifteen cub. cent. of the urine in a large test tube is added an equal amount of hydrochloric acid, and then, with constant shaking, a saturated solution of calcic hypochlorite (chloride of lime) drop by drop, until the greatest intensity of the blue color is reached. This is then shaken with chloroform, which readily dissolves the freshly formed indigo, and separates from the aqueous solution as a blue fluid, the color being more or less deep according to the amount of indican present. In pale urines, which are often very rich in indican, this method will serve to determine its amount with sufficient accuracy for clinical purposes. Dark urines, whose other coloring matters are also decomposed by hydrochloric acid and calcic hypochlorite, should first be decolorized by adding a solution of the basic acetate of lead, avoiding a great excess of this reagent, when, if indican is present, a good indigo extract can be obtained in this way. Albumen must always be separated from the urine before performing the analysis.

An abnormal increase of indican occurs much more frequently in chronic than acute affections, especially in consumption and exhaustive diseases. Patients who eat little or nothing, or who vomit a part of what they do eat, or digest it badly, often have an enormous increase of indican in their urine. The greater the anæmia the more indican appears to exist in the urine.

Of the acute diseases, diffuse peritonitis is the only one attended with an excessive increase of indican in the urine. A considerable increase was also found in subacute peritonitis, and in several cases of circumscribed peritonitis. In typhoid fever it may also be absolutely increased.

Of chronic diseases, twelve cases of carcinoma of the stomach (both with and without coexistence of the disease in the neighboring organs) were examined, and in all there was found a very great increase of the indican in the urine; this increase was not at all influenced by the condition of the intestinal discharges. A less, but still a very large amount was found in the urine in cases of ulcer of the stomach.

Next to cancer of the stomach the largest amount of indican in the urine was found in cases of multiple lymphoma and lymphosarcoma,

<sup>1</sup> Centralblatt für die medicinischen Wissenschaften, 1877, No. 20, page 357.



especially when located wholly or in part in the abdomen. In two of these cases the supra-renal capsules were affected, and there was a bronze coloration of the skin. (Rosenstein has found the indican much increased in Addison's disease.) The urine of children affected with glandular enlargements, swollen abdomen, and symptoms of so-called *tabes mesenterica* is especially rich in indican.

Usually there is an increase of indican in the urine in cases of advanced pulmonary phthisis, especially when attended with diarrhoea and amyloid degeneration of the various organs. Amyloid degeneration of the kidney from other causes does not appear to increase it, nor do either acute or chronic diffuse (parenchymatous) nephritis, but the author observed an increase in four cases of granular atrophy of the kidney.

In chlorosis, leukaemia, pseudo-leukaemia, and progressive pernicious anaemia, there was a moderate elimination of indican. In cases of constipation due to atony or mechanical obstruction in the large intestine, as in cases of parametritis without peritonitis, but little indican has been found.

In connection with the increase of indican, Salkowski and Baumann<sup>1</sup> have found an increase of other sulpho-acids, such as phenolsulphuric acid. Senator has also found in some cases an increase of lime associated with an increase of the indican.

M. Jaffé<sup>2</sup> also reports the results of his estimations of indican in pathological cases. In one case of cancer of the oesophagus, there being complete inanition at the time of death, seventeen milligrammes of indigo were found in the urine on the day of death. Jaffé observed that fever, in itself, had no influence upon the amount of indican; the increase of indican, therefore, in intestinal diseases attended with fever cannot be ascribed to the generally increased metamorphosis of the albuminous substances. He explains the larger amount of indican in these cases by an increased production of indol from putrefaction of the food in the small intestine, on account of an interference with the absorption of the products of the digestion of the albuminous compounds (peptone, leucin, tyrosin, etc.). Obstruction in the large intestine does not seem to affect the amount of indican, and, therefore, its estimation may prove of some value in locating the position of an intestinal obstruction.

Salkowski<sup>3</sup> uses a method for the approximate estimation of indican which is very similar to that employed by Senator. The urine is treated with hydrochloric acid and calcic hypochlorite in the same way,

<sup>1</sup> The JOURNAL, January 4, 1877, page 13.

<sup>2</sup> Centralblatt für die medicinischen Wissenschaften, 1877, No. 36, page 651, from Virchow's Archiv, lxx., page 72.

<sup>3</sup> Centralblatt für die medicinischen Wissenschaften, 1877, No. 21, page 382, from Virchow's Archiv, lxxviii.

but then, instead of being shaken at once with chloroform, it is made alkaline with sodic hydrate. The earthy phosphates thus precipitated carry down with them the indigo, which is isolated by washing this precipitate with hot water, drying it, and extracting the indigo from it with boiling chloroform. The amount of indigo in the blue solution thus obtained is estimated by comparing it with similar solutions containing a known amount of indigo. This method gives only approximately correct results, and is applicable only to urine which contains a very large amount of indican.

*Urine in Scorbutus.* — Hohlbeck<sup>1</sup> has examined the urine in eight cases of scurvy, of which seven were in adults and one in a fourteen-year old boy. He found that while the disease was on the increase the amount of urine was diminished to about one half the normal amount, the chlorides were diminished almost to complete disappearance, and the specific gravity and coloring matters were increased. There was a relative increase in the amount of potassium in proportion to that of sodium, the average ratio being 1 : 3.3, while after recovery the ratio was 1 : 5. This increase of the potassium is due to the greater destruction of the blood globule.

#### TOXICOLOGY.

*Poisoning by inhaling Dust containing Chrome Yellow.* — Leopold<sup>2</sup> reports five cases of this form of poisoning, one of which proved fatal. The patients were employed in weaving cloth colored with chrome yellow (chromate of lead), which was quite loosely applied to the thread, so that a portion of the pigment was easily detached and became diffused throughout the air of the room. The patients were affected with a yellow-coated tongue, yellow sputa, loss of appetite, malaise, in some cases vomiting, pain in the region of the stomach and umbilicus, obstinate constipation, and debility. The fæces were yellow. These symptoms disappeared in a few weeks after the removal of the cause, except in the case of an infant nine weeks old, who died in six or eight days after the beginning of the symptoms, which, however, did not appear until about three weeks after exposure to the infected atmosphere. The symptoms in this case were fever, restlessness, shrieking, several yellow-fluid stools daily, redness of the skin over the chest and abdomen, parched lips, and, just before death, short respiration.

After death there was found inflammation and perforation of the stomach, the same appearances which were seen in the two cases previously reported by Dr. von Linstow,<sup>3</sup> caused by ingesting the chrome yellow. None of the poison could be detected in any of the organs except the lungs, in which 3.6 milligrammes were found.

<sup>1</sup> Centralblatt für die medicinischen Wissenschaften, 1877, No. 46, page 844, from Petersburg. medicinische Wochenschrift, 1877, No. 33.

<sup>2</sup> Vierteljahresschrift für gerichtliche Medicin, xxvii., page 29.

<sup>3</sup> The JOURNAL, vol. xci., page 34.



This is the third fatal case of chrome-yellow poisoning reported within a few years.

*Dialyzed Iron as an Antidote for Arsenic.* — Richard V. Mattison<sup>1</sup> has performed some experiments to test the value of a solution of dialyzed iron as an antidote for arsenic. He found that a pure solution of the iron compound had no effect upon a pure solution of arsenic, nor upon one containing hydrochloric acid, but if added to the mixture of a solution of arsenic and an artificial gastric juice, the arsenic was rendered insoluble. This action of the gastric juice is due to the neutral salts which it contains; hence, whenever dialyzed iron is administered as an antidote for arsenic, it should be mixed with common salt. This acts by precipitating from the solution of dialyzed iron ferric hydrate (sesquihydrate of iron), which has long been used for this purpose.

In dialyzed iron, therefore, we have a compound from which may be immediately obtained ferric hydrate in a form suitable for administration at once. Of course, the arsenical compound, insoluble or but slowly soluble in the fluids of the stomach and intestine, should be removed as soon as possible from the stomach by an emetic or the stomach-pump, and from the intestine by a cathartic.

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## SECOND ANNUAL REPORT OF THE BOSTON MEDICAL LIBRARY ASSOCIATION.<sup>2</sup>

BY JAMES R. CHADWICK, M. D., LIBRARIAN.

IN the report upon the condition of the library, which I had the honor to submit to the association at its first annual meeting last year, I sketched briefly the origin, development, and present condition of all the collections of medical books in and near this city.

In the comparisons thus made possible between our own collection at the end of the first year of its existence and those others which had been in process of formation for periods varying from twenty to seventy-five years, I sought to bring forcibly to the attention of the profession the success that we had already achieved, and the aspirations in which we felt encouraged to indulge. I was able to show you that our library exceeded in the number of medical volumes the Treadwell Library of the Massachusetts General Hospital and the Harvard University Library by about one thousand volumes each; that it nearly equaled the Boston Athenæum; and that it contained fully half as many medical volumes as did the Boston Public Library. This admirable result was, moreover, attained entirely by the liberality of the profession, individually and collectively, but very few dollars having been expended in the purchase of books by the association.

During the past year our acquisitions have been very large and important. Their extent may be best shown by the following table: —

<sup>1</sup> American Journal of Pharmacy, January, 1878, page 23.

<sup>2</sup> Read at the meeting held on October 9, 1877.

In 1876.	In 1877.			
1339	2044	vols.	of	American journals.
739	936	"	"	English "
300	495	"	"	French "
222	278	"	"	German "
23	40	"	"	Canadian "
16	28	"	"	Danish, Swedish, Norwegian, Russian, Italian, and Portuguese journals.
<hr/>				
Total, 2639	3821	vols. of journals.		
1849	2645	vols. in general library.		
<hr/>				
Total, 4488	6466	vols. in whole library.		

Increase in the year is 1978 volumes.

That this collection of volumes may be of the utmost service to the profession it is indispensable that its contents should be known. This end is now fully attained by the admirable card catalogue with cross-references which has been prepared by the unremitting labors of Dr. F. H. Brown, assisted by many members of the association, notably Drs. E. Wigglesworth, E. M. Buckingham, A. Post, and B. O. Kinnear. The labors of these gentlemen merit special thanks on the part of the association.

The individual contributors of books during the years have been too numerous for mention, but the names of Drs. Edward Reynolds, Edward Jarvis, Algernon Coolidge, Benjamin E. Cotting, David W. Cheever, B. S. Shaw, G. H. Bixby, R. T. Edes, D. H. Hayden, J. C. Warren, F. H. Hooper, C. P. and J. J. Putnam, cannot be passed over in silence, owing to the size and value of the private collections which they have given us.

The files of current periodicals remain as large as before, amounting to about one hundred and twenty journals, the greater part being the gifts of the editors and publishers of the Boston Medical and Surgical Journal, of Dr. P. F. Mundé of New York, of the Harvard Medical School, and of Messrs. Codman and Shurtleff.

The reduction of the annual fee to six dollars seems to have proved a wise measure, for, although the receipts from this source have not met our expenses, unsolicited donations of money from Donald Kennedy, Esq., three hundred dollars; J. Ingersoll Bowditch, Esq., fifty dollars; and Dr. Edward Wigglesworth, eighty dollars (for binding); and several others, have enabled us to pay all our obligations and enter upon a new year free from pecuniary encumbrance.

An act of incorporation, which you will be called upon to accept to-day, will give the association a legal status, and put it in condition to receive bequests and donations, which, it is hoped, will be speedily forthcoming.

To facilitate the studies and researches of the profession of the city a check list of medical periodicals is in course of preparation, which will indicate at a glance the public or private library in which every periodical may be consulted. In such ways it is thought that our association may extend its sphere of usefulness beyond the range of its own collection of volumes.

The coöperation of every member of the profession in this city and State is earnestly solicited.



## PROCEEDINGS OF THE CAMBRIDGE SOCIETY FOR MEDICAL IMPROVEMENT.

JAMES A. DOW, M. D., SECRETARY.

DECEMBER 22, 1877. *Chorea in Pregnancy.* — DR. EDGERLY reported two cases of chorea in pregnancy attended by him during the past year.

CASE I. Mrs. A., aged twenty-four, American, married and mother of one child; has not lived with her husband for more than two years; belongs to a neurotic family, her father, whom she resembles, having died insane. Patient rather above medium stature and strongly built; had always been well up to the time she was twenty years old, when she had a severe attack of typhoid fever. Nine months before she came under the doctor's care for chorea, she had an attack of acute articular rheumatism, for which she kept her bed three weeks, but was not entirely well till the end of three months. She became pregnant about the middle of October, but not by her husband. At first she thought herself pregnant, but for some reason had dismissed the idea, notwithstanding she had had morning sickness, suppression of the menses, and other symptoms of pregnancy. About two weeks before she was first seen by Dr. Edgerly she had two teeth extracted, and the next day nearly all the muscles of the right side, including those of the face and neck, were found to be constantly and irregularly convulsed. The patient thought the shock attendant upon the extraction of the teeth had caused the chorea, but her family had previously noticed that for some time before she was peculiarly awkward in her movements, and that she dropped dishes, and other things, in an unaccountable way. When first seen, no other probable cause of chorea appearing, the question of pregnancy was raised, and its possibility denied with apparent sincerity. But the symptoms mentioned, the time, and a vaginal examination made it probable that she was in the beginning of the third month of pregnancy. She was informed of her condition, and that this was the cause of her chorea. When seen again, two days later, the family reported that she came from the doctor's office very much agitated, that she had not slept, indeed she had had but very little sleep for several weeks, and that she was immediately far worse in every way. After this, for fifteen days, though she got several hours of quiet sleep each night under the influence of chloral and bromide, she steadily grew worse. The muscles of the whole right side were in a state of constant and very violent agitation. Her speech was confused and disconnected. Sometimes she could not speak at all; could not feed or dress herself; complained of headache and loss of memory. Her mind also was much affected. She was very passionate and unreasonable, full of freaks and whims. At this time the Fowler's solution which she had been taking was discontinued, and strychnia ordered, resulting in a rapid improvement in all her symptoms. At the end of three weeks she could sew and knit, feed and dress herself. Some time after, she reported a slight attack on the left side, which caused her very little inconvenience, and for which she took no medicine. She was delivered of a healthy child at full term, after an easy labor, and made a rapid and perfect recovery.

CASE II. Miss B., aged nineteen, born in England, small in size, badly nourished, not very intelligent, with no hereditary tendency that could be discovered; has always been sickly. In early years she had the usual diseases of childhood, — measles, whooping-cough, etc. At the age of ten she had pain in her joints and limbs, which were thought to be rheumatic. When twelve years old she had her first attack of chorea, which was believed to be caused by fright, and was severe. After this, before her last attack, she had three other attacks, one of which was very severe, during which she lost her mind, and was almost completely helpless. The last attack came on about the first of March, 1877. Was first seen by Dr. Edgerly, at the Cambridge Dispensary, in June. Did not make her appearance the second time till some time in July. Then the question of pregnancy was raised, and, quite to his surprise, he found that she had not seen her courses since February; had suffered from morning sickness, etc. The uterus was enlarged, extending above the umbilicus, and the movements of the child were plainly visible. According to her account the chorea came on within fifteen days after conception took place, and was throughout mild in type. At this time the muscles of the left hand, arm, and shoulder were moderately convulsed. She suffered from headache and loss of memory, was very irritable, did not sleep well, and had very little relish for food, to compensate for which she drank large quantities of strong tea. She was ordered chloral and bromide, which caused her to sleep much better; also strychnia, cod-liver oil, nourishing diet, and to discontinue her tea-drinking. The improvement was not marked till Fowler's solution was substituted for the strychnia. After this, the gain though slow, was steady. During the last part of September and first of October, she complained of numbness of the forefinger and thumb of the left hand. When this passed off, as it did, she had the same sensation for a short time in the little finger of the right hand. At the same time the muscles of the right hand were observed to be partially convulsed. For some weeks before confinement her appetite was excellent, she slept soundly without medicine, could sew and crochet, which for a long time she had been unable to do. At the time of her confinement, December 5th, there was still slight twitching of the muscles of the left hand. The labor was easy and rapid, and the recovery perfect, all symptoms of her trouble having disappeared.

DR. HILDRETH remarked that there was an elevation of temperature in chorea; he had never seen it mentioned by any author, and asked the probable cause.

DR. MARCY said he thought the increased muscular action caused a slight elevation of the temperature.

DR. STEVENS thought the accelerated action of the heart caused the temperature to rise in this as in some other diseases.

*Strangulated Hernia.* — DR. MARCY reported a case of strangulated inguinal hernia. Patient, a female aged seventy, has had for years an unreduced omental hernia, at times complicated by the escape of a loop of the intestine through the ring. There was nausea and vomiting thirty-six hours before the operation. Assisted in the operation by Dr. Norris. After slightly enlarging the ring the intestine was easily reduced, but the omental



mass, the size of a small orange, was adherent to the walls of the ring, and upon separation presented a number of bleeding points. Because of this, the whole mass was tied with catgut at the ring, and removed. The ring was carefully closed with catgut sutures (a method for securing the permanent cure of the hernia advocated by Dr. Marcy several years ago and published, with cases, in the JOURNAL), and the antiseptic treatment was followed as usual. The patient made a perfect recovery, the temperature never exceeding 99° F., and the wound healed by first intention.

In reply to a question by Dr. Hildroth as to whether he followed Professor Lister's method complete, Dr. Marcy said that in 1870 he was a student of antiseptic surgery under Professor Lister in Edinburgh. That he was a skeptic as to its theories or benefits at the outset, but returned to America an ardent advocate of the new doctrine, and, as most of the members of this society knew, he had urged its adoption and followed its practice since. Dr. Marcy then explained the care requisite as to cleanliness, the strength of solution, etc. He used one part to twenty for instruments and hands, and one to forty for sponges and dressing. The antiseptic used by Professor Lister being

Acidi carbolici (crys.)	. . . . .	one part.
Resin	. . . . .	five parts.
Paraffine	. . . . .	seven parts.

Add the acid last. This must be sprinkled upon an equal weight of cloth, which should be first heated in a hot oven, and the whole kept hot under pressure for a period. This dressing is to be applied warm, and in suitable thickness and size to secure protection of the wound, a piece of rubber cloth being used between its outer layers. Dr. Marcy urged the adoption of antiseptic surgery in the treatment of compound fractures, and operations involving injury to the osseous structures, believing that not seldom septic poisoning and its subsequent dangers may be avoided and life saved.

*Syphilis and Marriage.*—DR. HILDRETH inquired of members whether they ever advised marriage of patients who had previously had syphilis, and if so, how long after all symptoms of the disease had disappeared. Dr. Hildreth believed they ought never to marry.

DR. CLARKE said Dr. Bigelow advised waiting two years, which advice he had given.

DR. HOLT always recommended waiting two or three years, and if in that time they are free from all symptoms of the disease, he thought the children could not inherit syphilis.

DR. STEVENS remarked that in the recent discussion in London, Mr. Hutchinson took the ground that syphilis was perfectly curable. He said that he was of the same opinion, but thought it made a difference whether the disease had been treated thoroughly, even after all symptoms had disappeared.

## PROCEEDINGS OF THE ANDROSCOGGIN COUNTY MEDICAL ASSOCIATION.

A. SPRINGER, M. D., SECRETARY.

THE tenth annual meeting of the Androscoggin County Medical Association was held at Lewiston, January 1st. It being the annual meeting, regular papers and discussions were omitted.

Reports of retiring officers show the society to be in a flourishing condition. The election of officers resulted as follows: president, Dr. R. R. Ricker; vice-presidents, Dr. R. Smith, Dr. J. Walker; standing committee, Drs. W. Sturgis, O. A. Horr, R. R. Ricker; treasurer, Dr. W. R. Oakes; recording secretary, Dr. A. Springer; corresponding secretary, Dr. O. A. Horr. Officers being elected, Dr. J. W. Beede then gave his parting address, of which the following is a brief synopsis. He said physicians are a necessity now, as in the days of the Great Physician. They have a right to be so, and to claim their special privileges from the community which they serve. There is a need for a cultivated, honorable, and skillful body of professional workers. One cause of the success of quackery is the lack of true culture and honest dealings on the part of many who claim to be physicians. He particularly urged the necessity of thorough study, honest labor, and keeping a high standard of professional aim, that the rank and file of the profession might keep step with the great leaders of medical research, even though in the rear. He alluded to the prospects of brighter days in the near future; saying that medical schools were raising their standards; investigations were multiplying; research in the various branches showing that medicine and surgery are rapidly rising out of the boggy regions of guess-work up to the luminous heights of physical demonstration. He closed with an appeal to the workers of the society to keep the professional armor bright with faithful labor and investigation, not looking for popular favor, but for the rewards of high aspirations and noble aims.



## THE NEW ENGLAND PSYCHOLOGICAL SOCIETY.

B. D. EASTMAN, M. D., SECRETARY.

THE annual meeting of the New England Psychological Society was held at Worcester, December 11, 1877. Officers for the current year were elected as follows: Dr. J. P. Bancroft, president; Dr. H. M. Harlow, vice-president; Dr. B. D. Eastman, secretary and treasurer.

The most important matter before the society was the report from the committee on the trustworthy reporting of recoveries. The committee submitted the following preamble and resolutions, which were unanimously adopted:—

“*Whereas* the method generally heretofore pursued in reporting the recoveries of patients at the institutions for the insane has, by its avoidance of a definite statement of the repeated recoveries of the same person, in cases of periodical or recurrent insanity, been largely instrumental in imparting to the general reader, and particularly to persons outside of the profession who are specially interested in the subject, an erroneous opinion of the curability of persons afflicted with mental disorder: and



"Whereas, as a result of that erroneous opinion, computations have been made in political and social economy, based upon an assumed proportion of curables among the insane, which is evidently far too large; and

"Whereas the attainment of truth, and not the dissemination of error, is the true object of all statistical science, therefore

"Resolved, that in the preparation of published reports this society recommends the adoption of some method by which that erroneous opinion may be corrected, and, in the future, prevented.

"Resolved, that without prescribing or suggesting a definite formula, it is recommended that a clear exposition should be made of the facts in relation to the following points: —

"First. In regard to patients admitted in the course of the year: the number admitted for the first time, and the number of readmissions, specifying the number who have been received twice, thrice, four and any greater number of times, and also the number who had previously been discharged recovered, specifying likewise the number who had recovered once, twice, thrice, and any greater number of times.

"Second. In regard to patients discharged in the course of the year: the whole number of recoveries, specifying the number of those who recovered for the first time, as well as of those who recovered for the second, the third, the fourth, the fifth, and any time still higher in the scale of numbers.

"Resolved, furthermore, that the true import and value of the statistics of any institution for the insane can be attained in no way other than by an analysis, in the results of which are shown, not alone the number of persons who recovered once, but the number of those same persons who recovered twice, thrice, four, five, or any higher number of times; and that any collection of statistics which has not been subjected to such an analysis is of comparatively little value."



#### ZIEMSEN'S CYCLOPÆDIA, VOLUME XIV.<sup>1</sup>

THIS volume, on diseases of the nervous system, is in many respects one of great interest, but perhaps more than any of the series it shows the disappointing tendency which characterizes much German work. There are historical introductions, learned discussions and theories, but at the end we feel as if the authors were ready, as indeed they are, to join in Faust's despairing complaint, that we might make use of what we do not know, but that the known is useless.<sup>2</sup> The article on angina pectoris may serve as an instance; attacks depending on cardiac disease, ossification of the coronary arteries, etc., are excluded, so that only the nervous kind is considered; that is, it is called nervous, because it cannot be shown to be anything else. There are four kinds: first, the excito-motor cardiac angina, from direct lesion of the ganglia of the heart; second, the regulator angina, which depends on the vagus, and may be direct or indirect; thirdly, we have excito-motor sympathetic angina, and,

<sup>1</sup> William Wood & Co. New York. 1877.

<sup>2</sup> "Was man nicht weiss, das eben brauchte man,  
Und was man weiss, kann man nicht brauchen."

finally, vaso-motor angina. "Of course," adds the author, "the complication of these principal types and their confusion with each other are not at all impossible." The article on epilepsy, by Nothnagel, leaves a similar impression, though we do justice to the vast amount of research it implies and to the skill with which the question is presented. Von Ziemssen is more successful in his paper on chorea, which is an excellent one. We pass over several others to come to the *pièce de résistance* of the volume, — disturbances of speech, by Kussmaul. It begins at the beginning, as far back as the origin of speech, which the author styles an "acquired reflex." We wish he were right when he says, "Speaking involves understanding one's self as well as others." How much quieter it would be if it were so! The *bourgeois gentilhomme* was delighted with science on learning that for forty years he had, unconsciously, been speaking prose; but what would have been his feelings if his professor of philosophy had told him that he had learned to speak it solely by onomatopœia, or, as ordinary people say, by imitation, the child imitating the words of its parent as it does the bark of a dog! Max Müller speaks of this disrespectfully as the "bow-wow theory." We reserve our opinion. The following passage appears to be a condensation of the preliminary part of the work. "For the purposes of speech there exists an apparatus as vast as it is complicated, consisting of nervous tracts and ganglionic centres, which partly occupy the position of the loftiest workshops of the conscious intelligence and of the will, and are partly reflex agencies in which simple and ordered sensory stimuli are converted into motion. Such a thing as a simple 'centre of language,' or 'seat of speech,' does not exist in the brain any more than a 'seat of the soul' in a simple centre." Further on Kussmaul shows that disease of Broca's third left frontal convolution is not necessary for the occurrence of aphasia, and that the faculty of articulation, which is not synonymous with speech in its broadest sense, is probably situated in the medulla. It is to be regretted that Kussmaul does not seem to have heard of that crowbar which was a most efficient lever in prying speech from its alleged seat in Broca's convolution. There are later interesting chapters on the disturbances of speech, stuttering, etc., and on deaf-mutism.

We have endeavored to give the reader some general idea of the nature of this remarkable paper. It is, we believe, a work of great merit, though we confess our inability to discuss it thoroughly. It may be doubted, however, whether it is not too abstruse to be in place in a book of this kind.

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### NAPHEYS' THERAPEUTICS.<sup>1</sup>

WE cannot describe a compendium of this nature as a work of high merit, nor recommend it as a guide to the beginner. The success it has met with shows, however, that it is a popular book, and it certainly is convenient to be able to turn to a large number of formulæ which are credited to their respective originators.

<sup>1</sup> *Modern Medical Therapeutics*. By GEORGE H. NAPHEYS, A. M., M. D. Fifth edition, enlarged and revised. Philadelphia: D. G. Brinton. 1878.



## RABIES AND HYDROPHOBIA.

It is unfortunate that age should enforce our respect for the word "hydrophobia," although it is less misleading when applied to the disease as it appears in man than in animals. It would be well, therefore, when treating of the disease to avoid "hydrophobia" as far as the dog is concerned, and to use rather the word rabies. We are happy to say that the experience of hydrophobia in man in this neighborhood and in this State has been very limited; popular interest in the topic is at rest, except very locally in the western part of the State. It is, however, a danger always liable to give rise to sudden and unreasoning perturbation, as was at one time the case in our own community, and has been very strikingly so of late in England. It is therefore well, at a time of tranquillity, to settle as far as possible what is known and what is not known on the subject. The recent publication in the JOURNAL of a paper read before the Springfield Society for Medical Improvement, and the occurrence of two probable cases of hydrophobia in this city in connection with the agitation across the water, induce us to make a few remarks upon a subject at once so old, so much discussed, and so very unsettled.

The recent excitement in England has resulted in the appointment by the Scientific Grants Commission of a committee to investigate the disease of hydrophobia as it presents itself there, for which purpose a grant of one hundred pounds has been made. The committee is composed of the best men, and their work is to be pursued under three heads: (1.) Investigation of the registered deaths from hydrophobia in England and Wales. (2.) Pathology. (3.) Tabulation and investigation of methods of treatment. There is no lack of material, there having been sixteen deaths from hydrophobia in London alone during the past year. The publication of the report of this committee may be awaited with great interest. In the mean time the most valuable source of information open to us is a series of reports made to the French government by a commission whose labors extended over a series of years, from 1850 to 1868 inclusive. Our own material is too scanty, and the earlier records not sufficiently accurate, to be of much service. During ten years, from 1867 to 1876, inclusive, there were but six recorded deaths from hydrophobia in Massachusetts, and of these two occurred in 1870, and the other four in 1876. The most curious and perhaps important contribution which America makes to the natural history of the disease is the observations in regard to the almost invariably fatal result of the bites of the skunk in certain regions of the West, as reported by Colonel Dodge in Plains of the Great West and their Inhabitants, and by Assistant-Surgeon Janeway in the *New York Medical Record* of March 5, 1875. In the especial region of the valley of the Arkansas River, the bite of the skunk is reported to give rise to hydrophobia in man, although the animal itself be in a normal condition at the time, and its bite is followed in the dog by no bad effect.

In the French investigations two results strike one immediately. Out of the three hundred and thirty cases of hydrophobia, selected as carefully reported, there is not a single one which was not fatal, and not one in which the incubation was prolonged beyond twelve months. Out of two hundred and

twenty-four carefully recorded cases, between 1850 and 1862, there were only eleven with an incubation of over six months, and out of one hundred and six carefully noted cases between the years 1863 and 1868 inclusive, the period covered by the report of Mr. Bouley, there was only one case in which the time of incubation covered eight months; in all the rest it was less than six months. The period of incubation we believe to be shorter in children than in adults, and it is given as such in these reports. The hot iron is strongly urged as the most reliable cautery. The value of statistics as to the ratio of the cauterized who escape is greatly interfered with by the impossibility of ascertaining whether the cauterization was thorough. In this connection we may quote an occurrence which took place in France in 1862. Sixteen persons and an ass were bitten by the same rabid dog; the human beings were all promptly cauterized by medical men (it is to be presumed thoroughly) and escaped; the ass was not treated and died. This would lead one to suspect that many cases reported as cauterized, especially when this was done by the sufferers themselves or by friends, were superficially treated; the percentage of mortality (.32) after cauterization of a wound received from a rabid animal would probably be much lower if cases of thorough cauterization only could be taken.<sup>1</sup> The French reports offer but little comfort in the way of treatment, as might be inferred from the fact that they record no authentic recovery.

The number of cases of rabies reported during the five years from 1850 to 1855, previous to the imposition of a tax upon dogs, was one hundred and sixty-four; that during the first five years subsequent to the imposition of the tax was one hundred and four. This is certainly in favor of the tax, though too much weight was not laid upon the difference, as a fair allowance, especially in this disease, must be made for coincidence. For instance, in one year a large number of cases of hydrophobia were the result of rabies in one animal, a wolf.

After all, these reports serve to show us the difficulties of the subject quite as much as to offer us information. We may safely conclude that the incubation of hydrophobia very rarely indeed extends beyond nine months, but there are a few cases on record in England, too well authenticated to be rejected, in which this period was prolonged to years. It is, *a priori*, hardly more strange and contrary to our general experience that a poison should remain latent in the system during years than during months. The only plausible explanation of the peculiar course of the poison in hydrophobia, namely, its local retention and subsequent liberation, is as applicable to an incubation of eight years as to one of eight months. We believe there is on the other hand no well-attested observation in which rabies in the dog had an incubation of more than eight months, and hence a suggestion made by Bardsley, Youatt, and lately by Sir Thomas Watson, in an excellent article in the *Nineteenth Century* for December, that all dogs should be secluded for eight months, with a view to putting an end to the disease. This measure would be impracticable, and inefficient if practicable.

A more desirable step would be the establishment of a quarantine where

<sup>1</sup> The percentage of deaths from non-cauterized wounds is given at 84.84.



suspected dogs could be detained and kept under observation. The tax upon dogs is a useful safeguard, its stringent enforcement a more useful one. The printing in full upon all licenses of dogs of the excellent remarks upon rabies, published for that purpose by the State Board of Health, April 27, 1877, is a wise measure, and should be strictly enforced. There is insufficient knowledge among the public of the early symptoms of rabies, and a dread of water is still supposed by many to be a usual one. Fourteen rabid dogs were brought to the Brown Institution in London during the year 1877, and in no case had the owner any idea of the serious nature of the ailment of his dog. The owner might be held responsible for injury caused by a dog, a preventive measure perhaps impracticable, but certainly effective. The use of the muzzle is still a vexed question. We should hardly be disposed to advocate it even in times of excitement. It is never thoroughly effectual, is irritating just in proportion as it is effectual, and gives a sense of false security to those disposed to tease or fondle dogs. After a bite from a suspected animal the most thorough and prompt cauterization has long been acknowledged to be indicated in all cases, and excision in some according to situation; but this dictum should be more extended in its application. Interference should never be avoided because hours have elapsed since the receipt of the bite, and excision with cauterization may be desirable even long after. Youatt quotes the cases of two men bitten by a rabid dog; one of them died of hydrophobia, the other had positive symptoms some days later; the cicatrix was excised and the symptoms subsided, returning six days after. The wound was then thoroughly cauterized, and there was no further trouble. The proofs are very strong that a wound inflicted by an animal becoming rabid subsequently to the injury, but infected at the time, may develop hydrophobia in the bitten person. Several such instances are reported in a series of more than one hundred cases of hydrophobia occurring since 1800, and quoted in late numbers of the *Medical Press and Circular*. There is one particularly interesting case taken from the *Medical Gazette* (vol. xxxv. p. 11). Youatt reports a case in point. We should imagine that the lunar caustic would be found more useful than the hot iron in unpracticed hands and in many wounds. Youatt preferred it, and he is reported to have been bitten four times himself, and to have cauterized four hundred cases without losing one. The efficacy probably depends more on the thoroughness of the application than on the character of the caustic. Suction of the wound should not be practiced unless by the sufferer himself, and then only when no other means of relief is at hand. Setting aside the possibility of absorption through the sound mucous membrane, there can be no question of its absorption where there are abrasions of the skin or of the mucous membrane. This we must accept notwithstanding Bollinger's disinclination to do so, and his citation of the apparent immunity of the women at Lyons who earned their living by sucking such wounds.

Sir Thomas Watson suggests a ligature above the wound, and the washing it out with a stream of hot water. He also relates a striking history to show the absorption of the poison through the milk of sheep bitten by a rabid dog, though there is not satisfactory proof of such a supposition; the only apparent alternative is an absorption of the poison directly from the wound by the

mucous membrane. Youatt relates the case of a woman who was attacked by a rabid dog ; her dress was torn, but there was no wound upon her person ; she shortly after mended her dress, and in doing so pressed down the seams with her teeth. She died from hydrophobia. The case has been lately reported in France of a veterinary surgeon who contracted hydrophobia in making an autopsy upon a dog who died from rabies. A good many experiments have been performed in France to determine the communicability of the disease by the saliva of a hydrophobous person, with results which can hardly be called decisive.

Our knowledge of the treatment and pathology of hydrophobia is still limited and unsatisfactory, although even here there is something to encourage us. As to the treatment we hope to make a few remarks at an early day, especially with a view to calling attention to the use of curare. The gross appearances after death are very uninformative, and are much the same in all cases whether death occur from asphyxia or from asthenia. Among the numerous late investigations into the minute pathology, those which Dr. Gowers, of London, has republished, with plates from the *Pathological Transactions* for 1877 (vol. xxviii.), are the most definite. In an examination of the medulla oblongata and spinal cord in four cases of hydrophobia, he finds certain pretty constant changes which were most intense in the region of the hypoglossal, pneumogastric, and glosso-pharyngeal nuclei, and slighter in the auditory, facial, and fifth nuclei. These observations coincide in the more important particulars with those of other late observers, and with those of an examination of ten rabid dogs made at Rudneff's laboratory at St. Petersburg. We may conclude with Dr. Gowers that the distribution rather than the character of the microscopical lesions is to be regarded as peculiar to the disease.

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#### MEDICAL NOTES.

— After Dr. Pinkham's admirable paper on the sanitary condition of Lynn, published in the last report of the State Board of Health, it was excessively disappointing to find that the city rejected the bill allowing them to establish a local board of health by an adverse vote of more than two to one. It is still more discouraging to read the conclusion of the special investigation with regard to their sewerage. The refuse of Lynn is now discharged close to the shore ; and the deposits of filth near the sewer outlets at low tide are in a high degree offensive. The proposed plan provides for an intercepting sewer, discharging in the harbor near the mouth of the Saugus River, at a point where the water is a dozen feet deep at low tide ; this is suggested as a *remedy*, but the statement is also made that a pumping station and some plan of precipitating the solid parts of the sewage may at a future time be needed. It is better to look the facts squarely in the face, and say to the people of the city in question that, following the above plan, they are simply taking temporary measures which will relieve them of their difficulty for only a while, if the city continues to grow, and that there must inevitably be a nuisance in time caused by flood-tide deposits, which will finally demand radical treatment.



The final proposition to use the sewage-precipitate, if not wanted as a fertilizer, "to good advantage for raising land" and for "filling-in material," out of which to make soil, must be a surprise to those who hoped that there is now such a thing as elementary knowledge in sanitary matters in our State.

— Schiff says that excision of the spleen has no prolonged influence on the absolute or relative quantity of the white or red blood corpuscles.

— *The Canada Lancet* republishes an advertisement first issued in 1800, in the *Medical and Physical Journal* of London, which indicates that Dr. Currie, who first used the cold-water treatment in fevers, was also the first to use a clinical thermometer.

— Our Philadelphia correspondent, Dr. Frank Woodbury, has just been elected a member of the medical staff of the German Hospital of that city, a position formerly held by Dr. Hamilton Osgood, who, as our readers know, has come to Boston to practice his specialty of diseases of the throat and chest.

— Last year an order was passed by the city council of Boston that his honor the mayor be requested to petition the General Court for the passage of an act authorizing the city authorities to regulate, by ordinance, the practice of medicine and pharmacy in this city. It is stated, on good evidence, that there are at least three hundred and sixty-two "doctors'" signs on our streets, some of them covering houses of ill fame, many of them disreputable, and all belonging to persons who do not possess diplomas, and who are often notoriously incompetent. The bill is to provide that the diploma must be shown to an inspector, appointed by the city, at any time. Otherwise, any one advertising himself as a physician, by his sign, is to meet summary punishment. The matter has been referred to the joint committee on water supply and drainage, so that all persons desiring to be heard on the subject will have an opportunity of stating their views. Of course, such an act will not provide for a high standard of medical education at present, and it will not prevent quacks and abortionists from plying their vile trades, but it will save well-meaning people, who run for the nearest doctor, from innocently summoning the most ignorant quack. Some such plan as this is now in successful operation in New Hampshire and Vermont, an instance of which was lately shown in the reprint of the Connecticut River Valley Medical Association.

— An abortionist of Philadelphia, who had carried on his nefarious trade for many years, was finally caught a few days since by the death of a young girl whom he had operated on. The old villain was eighty-two years of age, and when the officers came to arrest him he fell into an apoplectic fit, and died after two days' illness, thus escaping from the clutches of the law.

— Says the *Medical Record*: "Dr. Piffard asserts, as an example of the efficacy imparted to drugs by trituration, that a grain of calomel well rubbed up in sugar and given in twenty doses will often produce the specific effects of the drug when a single dose of twenty grains has failed."

— Dr. Gowers, writing to the *Lancet* for December, states that he has had constructed by Hawksley a modification of Hayem's instrument for counting blood corpuscles, which admits of greater accuracy and can be used with any microscope. Full details are given.

—Karl Friedrich Heinrich Marx, senior of the medical faculty of Göttingen, is dead. After the celebrated Weber, he was the oldest member of the Royal Scientific Society.

—Professor Ghinozzi, the most distinguished physician in Florence, and occupant of the clinical chair at the institute, died December 15th.

—The dignity of Hofrath (Aulic councilor) has been conferred on Arlt and Braun-Feruwald, of Vienna, in consideration of their renown as teachers and practitioners.

—Dr. Sachs, botanist at Wurzburg, has been called to the University of Berlin.

—Ponfick, who now holds a professorship at Göttingen, is mentioned as Cohnheim's successor at Breslau. Cohnheim has accepted a call to Leipzig.

—Czerny, of Heidelberg, has declined an invitation to Prague. Professor Albert, of Innsbruck, was made the second choice of the Prague faculty, and has notified them of his acceptance.

—Under Chapter 133 of the Acts of the Legislature of 1877, Cambridge Lowell, Worcester, Fall River, Lawrence, New Bedford, Somerville, and Newburyport voted to establish independent local boards of health; Chelsea, Lynn, Gloucester, and Fitchburg voted not to do so; in Salem, Springfield, Haverhill, Taunton, and Holyoke no vote was taken on the subject. Salem had already applied to the legislature for a special act, so that no action was needed under this later law.

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### LETTER FROM CONNECTICUT.

THE recent railway accident at Tariffville suggests the question of how far the managers of a road should be compelled to go in providing for the injured in such disasters. The chief idea in the minds of the officials is to get the road in running order as quickly as possible, that the tide of travel and business may be uninterrupted; and wrecking trains are soon at the scene. If each main division were provided with a hospital car furnished with several beds for the more severely injured, stretchers, and the hospital stores usually needed, including dressings for burns and facilities for making any quantity of hot coffee that might be required, a vast deal of suffering would be relieved and many lives saved; such cars could be sent soon after an accident had occurred, and their cost would be saved in lessened damages to be paid.

Among the injuries was a rather unusual fracture, namely, of the upper maxilla, with separation at the palatal articulation. The anterior segment was freely movable. The case is progressing very favorably under use of the interdental splint.

Cases of deaths from hydrophobia are still not unfrequently reported, and of dogs appearing to be affected with rabies. The latest case of death from hydrophobia, that of Dr. Way, a well known dentist of Suffield, seems to be pretty well substantiated by the fact that several domestic animals bitten by the dog have been affected with symptoms of the same disease, and one died on the same day with aggravated symptoms. In the doctor's case the bite was a slight one, attracting but little attention at the time, and the impressions con-



cerning it had nearly passed out of his mind, when hydrophobic symptoms appeared.

There has of late been an increased interest shown in professional subjects, medical education, and the like. The Hartford Medical Society recently added to its constitution a provision requiring each member to receive no student of medicine who had not a fair education in the common English branches, physics, and chemistry, and to withhold certificates of study from those unable to construe easy Latin. If the standard of medical education is to be generally raised, the individual practitioners as well as the schools must take some action and feel some responsibility. The propriety of requiring a preliminary examination at the Yale Medical School is under discussion; there are some obstacles in the provisions of the charter, but the friends of the measure are quite sanguine of success. The school is unusually full this year, and the plan of written examinations works very successfully; the final examinations in the more elementary branches at the end of the second year are becoming very popular, and few who are eligible neglect them, although they are fully as rigid as the final ones at graduation, and are intended to be very thorough. Several changes have been made of late in the school. Dr. David P. Smith, of Springfield, has the chair of surgery vacated by the resignation of Dr. Francis Bacon, and Dr. J. S. Wilcox, of Hartford, that of theory and practice; a lectureship on ophthalmology and otology, with a weekly clinic, has been established under charge of Dr. W. H. Carmalt, lately of New York, and a weekly gynæcological clinic. A series of lectures on insanity has been given during the winter by Dr. H. P. Stearns of the Hartford Retreat, and on alcohol by Dr. T. D. Crothers of Walnut Hill Asylum for Inebriates. The latter institution has been temporarily opened in commodious and pleasant quarters, with accommodations for about twenty patients, and ten are now under treatment. The expenses range from ten to twenty dollars a week. The admissions have thus far been limited mainly to the more remediable class, for example, those who, having used alcohol temporarily to help them over hard places in literary work or business, find a habit established which they are unable to break unaided. The institution as at present conducted furnishes a pleasant home for patients of this class, with every adjunct for recreation, work, and amusement, that can be afforded within its walls, and agreeable, quiet surroundings. The asylum has all necessary legal powers over its inmates, none of whom are received for less than four months, an advantage not possessed by any similar institution, enabling the superintendent to call upon police or constabulary in case of escape, — a very quieting and soothing feature in itself when understood by an unwilling patient.

*The Quarterly Journal of Inebriety*, under the editorship of Dr. Crothers, is now issued from this city, and has certainly a wide sphere of usefulness before it in a field not very well worked.

The Retreat for the Insane in Hartford has been very much improved recently, at an expense of about forty thousand dollars, adding greatly to the appearance of the buildings and grounds, as well as to the accessories of treatment. A series of detached wooden buildings, inconvenient and somewhat unsightly from age, has been replaced by a connected range, in architectural

harmony with the main buildings, made of brick faced with Westerly granite. A greenhouse, forty-eight by twenty feet, has been built in connection with one of the wings, and arranged with seats, for patients to enjoy the sight and perfume of the flowers, while growing as well as when gathered. An extensive lawn has resulted from the compact arrangement of the buildings, to be laid out for ornamental gardening. Minor changes in curbing, grading, drive-ways, and the like, incidental to the changes, are quite marked in their general effects. The system of treatment is the "non-restraint," although it is not carried to the extent practiced in England. Covered beds are used, which can be firmly locked, and they render any other than the horizontal position impossible. A strong wire net-work, the meshes of which are too fine to admit the fingers, with padded sides, is supported on a framework about a foot and a half from the level of the mattress, and is found to possess great advantages for both patients and nurses, rendering recourse to manual restraint much less frequent.

The training schools for nurses at New Haven and Hartford have proved themselves of great value, are rapidly gaining in popular estimation and favor, and the demand for the graduates is fully equal to the supply. All vacancies in the schools are engaged long before they occur, and the schools have every prospect of permanency. The idea of native adaptability for any work, as rather superior to any training, even when the two are combined, is somewhat peculiar to the Connecticut mind, perhaps to New England generally; and there were, of course, the prejudices engendered by the time-honored nurse to be met, an influence as potential as any in perpetuating medical superstition. The trained nurses are heartily welcomed by the physicians, to whom they are, indeed, a perfect godsend; and thus far they have not shown the faintest traces of likeness to that intolerable nuisance, "the old experienced nurse."

The attempt has been made to establish in Hartford a medical journal and library association, with good success, so far as the first is concerned, and very fair as regards the latter, considering the disadvantage of having no collections already in existence as nuclei. About a thousand volumes have been gathered, mainly works of reference and bound files of journals. The society meets twice a month, with abstracts, papers, and discussions. A section on pathology and microscopy has been formed, with a laboratory, that promises well for practical work during the winter. There are journal associations in many of the cities, but the only attempt to establish a medical reference library has been in Hartford.

The subject of a State Board of Health has been again brought before the legislature by petition from the physicians, and with better auspices for success. The importance of the measure and its nature are better understood and appreciated. The Social Science Club of Hartford has been of late discussing sanitary science, and the full reports of the discussions and papers have been of service in instructing public opinion. The questions involved are receiving more attention from the people, whatever the action of the legislature may be. The city of New Haven has the only well-organized, and efficient local board of health in the State, unless the one recently organized in Bridgeport be upon the same model. Elsewhere there is little systematic work, and the educational influence of a state board is certainly needed.



LARGE DOSE OF CHLORAL.

MR. EDITOR, — The following interesting case occurred in my practice recently, showing to what extent the hydrate of chloral may be used with impunity, ten drachms being taken within ten hours, and being followed by no unpleasant effect.

E. R., aged forty, of intemperate habits, had been drinking for two weeks, having had very little sleep. His nervous system was nearly exhausted, and to obtain the desired rest the following mixture was ordered : —

℞ Chloral hydrate . . . . . 3 x.  
Syr. simplex . . . . . 3 ij.

S. Half a teaspoonful to be given at once, to be repeated in an hour if necessary.

The nurse began the treatment by giving one drachm of the mixture, and in an hour, as it had no effect, she gave three drachms more, which simply stupefied him for about an hour, taking away all power of locomotion without producing sleep; then two drachms more were given, and he slept for about an hour and a half, snoring heavily, but was very easily awakened and restless, with slow respiration. I then cautioned her about giving any more, especially in such large doses. The effect soon passed off, and three drachms were again given with like result. Things continued in this way until the whole ten drachms were taken within ten hours, after which five or six hours of restless sleep were obtained.

The next day I saw the man, to my surprise learned how the medicine had been used, and to my greater astonishment found him quite well, with the exception of the headache which followed.

JAMES J. HEALY, M. D.

NEWBURYPORT, MASS., December 27, 1877.

COMPARATIVE MORTALITY-RATES.

	Estimated Pop- ulation, July 1, 1878.	Deaths during week ending January 26, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean of ten Years, '68-77.
New York.	1,093,171	477	22.69	24.32	28.71
Philadelphia.	876,118	303	17.99	18.80	21.54
Brooklyn.	549,438	193	18.27	21.51	25.50
Chicago.	460,000	127	14.36	17.83	22.39
Boston.	375,476	138	19.11	20.10	24.34
Providence.	104,500	44	21.89	18.81	19.20
Lowell.	55,798	12	11.18	19.09	22.50
Worcester.	54,937	17	16.09	21.07	22.30
Cambridge.	53,547	17	16.50	18.69	20.83
Fall River.	53,207	10	9.78	21.35	24.96
Lynn.	35,528	7	10.25	20.42	19.67
Springfield.	33,981	5	7.66	16.04	19.77
Salem.	27,140	7	13.41	20.38	21.15

**OBITUARY.**—Dr. William Stokes, of Dublin, died on January 7th, at the age of seventy-six years. He had been for some time past in failing health, never having fully recovered from an injury received five years since. He had retired from practice. In 1825 he took his degree at Edinburgh. In 1828 he published his first work on *The Application of the Stethoscope to the Diagnosis and Treatment of Thoracic Disease*. This was followed by one entitled *The Diagnosis and Treatment of Disease of the Chest*, and later by *The Diseases of the Heart and Aorta*. He was appointed professor of physie to the University of Dublin, succeeding his father. He rose rapidly to a large practice, and has been during the last half century one of the most prominent men in the profession in Ireland. He received honorary degrees from Oxford, Cambridge, and Edinburgh; also the German order "Pour la Mérite," in company, it is said, with two of our own countrymen, — Longfellow and Bancroft.

THE next meeting of the Middlesex (East) District Medical Society will be held with Dr. Winthrop Stevens at Stoneham, Wednesday evening, February 13th, at 7.30 o'clock.

A postponed paper by Dr. Jeffries.

The Actual Caution in Cancer, by Dr. W. S. Brown.

J. RICHMOND BARSS, *Secretary*.

**MIDDLESEX NORTH DISTRICT MEDICAL SOCIETY.**—At the quarterly meeting of the Middlesex North District Medical Society, an interesting essay on *The Metrical System in Prescriptions* was given by Dr. W. H. Lathrop of Tewksbury, who also gave illustrations on the blackboard.

The following in regard to the death of Dr. John C. Bartlett was adopted:—

This district society, in the death of Dr. John C. Bartlett, of Chelmsford, has lost an honored and respected member.

Above pretense and show, above the arts by which so many, half as well prepared, thrust themselves into notoriety, as a physician, he was esteemed by those who had an opportunity to learn his worth. He made no claim to extensive medical lore, he attempted no difficult surgical operation, but he had what all the schools of medicine cannot of themselves supply, an observing mind, a retentive memory, a good judgment and a high sense of responsibility. Some of these traits may have circumscribed his circle of practice, but not any deficiencies of mind and heart, of good medical education and attainments. His standard of professional honor was high, and he never descended to mean and petty tricks. For forty-six years he held the position of a medical man in a small country village, so different from that of a city practitioner. The division of labor and responsibility in large towns very naturally shuts the physician up to his chosen appropriate sphere; but the country doctor will find many opportunities and calls to do good, for which the faculty, as such, have no prescriptions. Happy is he who has the power and disposition to meet such calls, and no better evidence of Dr. Bartlett's claims upon the respect and confidence of the community in which he so long lived could be wished for and seen than was manifested by the large gathering at his funeral and grave.

JOHN O. GREEN, }  
CHAS. A. SAVORY, } *Committee.*  
LEVI HOWARD, }

LOWELL, January 17, 1878.

**BOOKS AND PAMPHLETS RECEIVED.**—Is the Human Eye changing its Form under the Influence of Modern Education? By E. G. Loring, M. D. New York.

Malaria and Struma in their Relation to the Ætiology of Skin Diseases. By L. P. Yandell, M. D. Louisville, Ky. (Reprinted from the American Practitioner, January, 1878.)

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## LECTURES.

### RINGWORM: *TINEA TRICHOPHYTINA*.

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GENTLEMEN, — I show you this morning a mother and four young children who have upon different parts of their bodies a form of eruption which is of not infrequent occurrence among us, and which is remarkable for the diversities of appearance it presents, according to its seat and stage. You will see upon all of them, situated upon the face, neck, fore-arms, and backs of the hands, small, circular red patches, varying in size from a small pea to that of a silver half-dollar. The redness disappears momentarily on pressure, indicating an inflammatory or hyperæmic state of the skin. If examined more closely, we find that the patches are but slightly elevated above the general surface, and, on pinching up the skin, that the tissues beneath them are not infiltrated. Their surface-manifestations consist of scattered, small, papular elevations, which are most pronounced at the edge of the patch, and of thin, minute scales which sparsely cover both the papules and the generally reddened, affected portions of the integument. Some of the papules may possibly be found to have become vesicular in character (from which the disease received its old name, *herpes circinatus*), but it is rare that the efflorescence proceeds to this grade of evolution. If we examine the larger, and therefore older, patches we find that the central portions are much less red and prominent, and present only a slight scalliness on a dull red or yellow surface. The border of these, moreover, is not so uniformly papular or defined by so great prominence as in the smaller ones. This indicates that the process quickly reaches its height, and tends to spontaneous though incomplete subsidence. You will see that this brief description applies to all the many patches the five patients present, and that, with the exception of the slight changes consequent upon the natural subsidence of the process in the centres of the patches, there is, in apparent opposition to the remark first made, a marked uniformity in the appearances of the affection. If, however, we examine the scalps of two of these children we find also circular patches, from one half inch to an inch in diameter, which differ from

those upon the other parts of the body. They are scarcely at all red, and present no well-defined papules nor prominent edges; they are, on the other hand, more scaly than the others. As these patches are of the same nature as the latter, these differences in appearance must be due to differences in the anatomy of the scalp and the general integument, the former showing itself less disposed to inflammatory reaction under the common exciting cause. The scales, too, upon the scalp are somewhat thicker than upon the general surface, because they are retained in place by the hair in part, and because the head is less frequently washed. The hair is somewhat thinner over these places than elsewhere. The subjective symptoms in all the patches are a slight burning and itching. The general condition of the patients is in no way changed from that of health; they are a particularly healthy family.

What now can be the nature of an affection which attacks so many members of a household at the same time? We should naturally think first of the epidemic and contagious exanthemata, but I need not recall the cutaneous manifestations of these diseases to convince you that in the seat and character of the lesions here seen these cases in no way resemble this class; moreover, the entire absence of all constitutional symptoms here indicates their different nature. But, on the other hand, we have strong presumptive evidence that the disease is due either to some local infectious cause, such as probably, in my opinion, gives rise to so-called impetigo contagiosa, or that it is contagious. In this case, as its history teaches, there is no proof that it has been communicated from one member to another, for we shall find, on questioning the mother, that the disease began to show itself nearly simultaneously upon the whole family, excepting the father, ten days ago, in the form of small spots, which have in the mean time grown to the largest of these patches, while new ones have been appearing constantly since then. Taking this history with the appearances, there should remain but little doubt as to the nature of the disease, but we shall make the diagnosis absolutely sure by scraping off some of the scales and examining them by a high magnifying power. Having first made them more transparent by adding a drop of liquor potassæ, we find that they consist of epithelial cells, with certain minute foreign elements which we recognize as belonging to cryptogamic growths. Their shape and size, moreover, show them to be the spores and mycelium of a fungus called *trichophyton tonsurans*; but as we know nothing of other phases of this plant, that is, nothing of its real botanical relations, we must understand by this name only the parasitic and incomplete stage of some unknown mould or fungus. This phase, however, is always well defined and unvarying, and is always present in this affection. We conclude therefore, justly, that the fungus is the cause of the disease, and we can easily demonstrate that it is so by inoculation. Indeed, in the majority of cases the history of its contagious nature is clear in its communication from one portion of the cu-



taneous surface to another in succession, or from one member of a family to others. In this instance, however, you will remember that I stated that there was no evidence that it was thus communicated from one member to the other, because it began almost simultaneously upon all of them.

What, then, was the source of contagion? This growth is found not upon man alone, but upon several of the domestic animals, as dogs, cats, and horses, producing upon them appearances resembling those upon the scalp above mentioned, and constituting one of the forms of affection popularly called mange. It is always important, therefore, to bear in mind the possibility of contagion from these sources, especially if several members of a family are affected simultaneously. In this case inquiry was immediately directed to this point, and it was ascertained that a kitten recently received into the household had spots of some kind upon it. I have asked the patients to bring the animal this morning, and it is in this basket. On examination we see that upon the ears near their base there are some circular patches lighter in color than the surrounding parts, and that these appearances are produced by a loss of a part of the hairs. The surface of the skin thus affected is slightly scaly, but exhibits no signs of inflammation. Although I have not seen the kitten before, and therefore have had no opportunity to examine for the presence of the fungus, I have no doubt that we should find upon the surface of the patches, and probably also in the hairs growing from them, the identical cryptogamic growths found upon the children and their mother. You will readily understand how a kitten thus affected, received into a family and brought into repeated and intimate contact with the hands and heads of the children in fondling it, might and must communicate an affection so eminently contagious as ringworm. You will see, too, why the disease is limited in its early stage to its present localities, because it has not yet had time to spread to any great extent by self-inoculation, and yet why it starts from so many centres at once within these affected regions. That the father of the family alone remains unaffected is explained by the fact that he has not handled the kitten like the others. Such cases of communication from animals to man are not very rare. I was able to show the class a year ago a similar instance; the father, mother, and three children presented great numbers of small ringworms upon the faces, necks, and arms, which had appeared a week after two kittens affected like this one had been brought into the family.<sup>1</sup> Last summer a groom presented himself for

<sup>1</sup> During the preparation of this lecture for publication I have been asked in consultation to see an unusual looking eruption upon a family of children in this city. Four of the five children were thickly covered with small ringworms upon the hands, arms, faces, and necks. After inquiry, it was ascertained that a strange kitten had been taken in from the street within ten days. On examination it was found that there were several patches of the same growth upon its head. All the children excepting the girl not affected had handled it freely.

treatment at the clinic with a large ringworm upon the fore-arms, and stated that there were upon his horse circular patches which he described as closely resembling the disease upon that animal.

I have spoken of the cases before us as representing the first or early stage of the disease. You have also had the opportunity of seeing its later stages in various forms. Upon the general surface the appearances are always nearly the same, excepting in the size of the rings, which of course may increase according to their duration ; but upon three portions of the body marked variations from this early type occur, if the disease remain long uncured, or is imperfectly treated. These are the scalp, the bearded face, and the genital regions.

Upon the scalp, if we should leave the patches upon either of these children to run their own course, we should shortly find the hair falling wholly from the affected parts and leaving circular bald spots ; but as circular patches of baldness are found in other affections, it becomes necessary to specify what are the distinguishing marks of ringworm of the scalp in this respect. Examining the surfaces of the apparently bald spots, you will see that the hairs have not generally fallen out, but have broken off just above the scalp, leaving their stumps to project and to give, with the scaliness of the early stage, now much more apparent, a peculiar roughness, which is increased by a marked prominence of the hair follicles. In alopecia circumscripta, which resembles tinea tonsurans in size and configuration, the surface of the patches is perfectly smooth, free from scales, and almost wholly devoid of hair stumps. At the borders of these patches, upon our patients, among the hairs not yet fallen, a rim of slight scaliness may be seen, where the early stage of the affection is in progress. There is seldom any redness or other sign of severe inflammation in ordinary cases, but occasionally deep-seated inflammation of the hair follicles, with swelling and prominence of the skin, arises. A viscid fluid is discharged from several openings, and the whole elevated patch feels boggy. This condition is called kerion. The course of the disease, after it has attained the second stage, is always chronic ; indeed, it may last for years, and may extend over large portions of the scalp, so that it is almost completely denuded of hair during its activity. Permanent baldness, however, seldom ensues, whatever the duration of the affection, unless the inflammation should be so exceptionally severe in parts as to destroy the hair follicles. Such destruction, the result of small abscesses, is always very limited, and occurs mostly in children of strumous or debilitated habit. The absence of moisture or crusts in ringworm serves to distinguish it from eczema or favus, which, with seborrhœa, are the most common diseases of the scalp in youth. From the latter, or other scaly affections of the part, the circumscribed baldness would be generally sufficient for differential diagnosis. If we pull out some of the stumps of hair from



the affected parts, and they generally come away so easily as to be scarcely felt by the patient, and examine them by the microscope after adding a drop of potash solution, we find the same cryptogamic growths between the sheaths, often in great quantity, and running in parallel bead-like rows between the elongated cell-structure of the root and shaft. You will readily see why a hair thus permeated by such foreign growth should become brittle and break off with a splintered fracture just above or below the surface of the scalp. You will notice, too, that the first stage of the affection becomes the second only after the fungus has had time to extend its growth down into the hair sacs and throughout the capillary tissues. For reasons not well understood, this form seldom affects adults, although ringworm of the face in men is here not an uncommon affection, thus affording prolonged chances of its transference to the scalp. With children, however, it is not an infrequent occurrence, especially in asylums, where the most favorable opportunities for contagion prevail in the common use of brushes, combs, and towels, and where, if once introduced, it may affect a large part of the inmates, and require years for its eradication.

I have shown you thus far in the course several men with disease of the bearded parts of the face, and have told you that such cases were popularly called barber's itch, because they are commonly believed to be acquired at a barber's shop. I have told you, however, that there are three distinct affections thus called, of which we have seen examples : eczema of the hairy face, acne of the beard, and a parasitic folliculitis of the same parts. They are apt to be confounded, even by physicians, under the common name sycosis. One of them only, the latter, is contagious, and may be contracted at the barber's shop ; it is ringworm in its late stages. The disease always begins in the circinate or superficial form as upon other parts of the body, the circular patches or rings already described, which may extend rapidly and cover large portions of the face and neck. It may exist in this stage for weeks, or months even, without subsequent changes, with or without treatment, or may for a long time escape recognition, owing to its partial concealment by the beard. It rarely affects men who wear a full beard, or those who shave themselves, because it is almost always contracted at the barber's. No precautions in the way of having separate shaving equipments at these places will insure absolute safety against such chances. Razors are rubbed upon a common stop ; towels are used upon several persons in succession ; and I have treated ringworm upon the hands of barbers. In such ways the minute germs of the disease may be transferred from one affected individual to many, who think themselves fully protected against the dangers of the barber's shop. Sometimes, however, the disease is brought into the family by the children, or by domestic animals as just seen, and may thus establish its

seat upon the bearded or shaven face of the father. After an indefinite period, varying from a few weeks to many months, it may be after the primary or circinate manifestations have disappeared under treatment, the spores find their way in many cases to the depths of the hair follicles, and the second stage, parasitic folliculitis or sycosis, is developed. This is a most distressing and obstinate affection. It begins in the form of small nodules about the hairs, in some portion of the skin previously run over by the disease. These slowly enlarge and may discharge pus from their tips, which dries and forms crusts about the hair. In later stages the nodules and pustules may be converted into large, prominent tubercles, which by suppuration may give rise to thick crusts, or large, raw surfaces may be established. The tissues of the skin surrounding the diseased follicles may become involved to a great depth, causing extensive induration, swelling, and disfigurement of the parts. The disease may thus progress gradually over the hairy portions of the face for months and years, producing, if the folliculitis is excessive, permanent destruction of the hair growth. How, now, shall we distinguish this form of sycosis from the non-parasitic folliculitis and from eczema of the same parts? From the former it may not always be easily distinguished at sight; generally, however, the morphological changes are much more grave in the parasitic form; its clinical history, moreover, will almost always establish the fact of a preëxistent ringworm; and the microscopic examination of the hairs removed from the follicles least inflamed will discover the presence of the fungus-growth identical with that of the early stages or circinate form. In eczema of the bearded face the inflammation is not limited at first to the tissues immediately surrounding the follicles, and the serous oozing, suppuration, and crust formation are not centred about individual hairs, but affect the surface involved uniformly. The infiltration of the tissues, too, is more general and diffused, not nodular. Parasitic sycosis seems to be far more common here than in some other parts of the civilized world, Germany especially, the cause of which is readily seen on examining the relative occurrence of all forms of the disease here and in other countries. In dispensary and hospital practice it forms in America 3.46 per cent. of all affections of the skin; in Ireland, 1.7 per cent.; in Scotland, 1.4 per cent.; and in Austria only .33 per cent. In my private practice here in Boston it makes 5.6 per cent., while in Mr. Wilson's in London it makes only 2.5 per cent. You see, therefore, why with this special luxuriance of parasitic growth of the plant amongst us its frequent occurrence upon the bearded face is not at all strange.<sup>1</sup> . . .

In considering the clinical features of all these varieties of ringworm we have seen that the sources of contagion are various. Of the natural habitat of the plant, outside its parasitic life upon animals, I have stated

<sup>1</sup> Remarks upon eczema marginatum of Hebra, Burmese ringworm, omitted.



that we know nothing. It is probable, from its more frequent occurrence upon man in America, that in its other phase of existence it is also more abundant amongst us than elsewhere, for our habits of life and of the toilet are less favorable to the development of such extraneous growths upon us than are those of European nations. Certainly instances often occur where we cannot trace the immediate source of contagion from another individual directly. In the majority of cases, however, we are able to do so. In children, ordinary circinate ringworm, occurring most commonly upon the hands and arms, face and neck, is generally taken by playing with other children similarly affected; whereas the form upon the scalp is often taken by putting on the cap, or using the brush and comb of another child thus affected. The obstinacy and long duration of this latter variety offer protracted chances of such communication. Upon adults in the form of sycosis it is almost always contracted at the barber's shop by shaving in ways already alluded to, rarely at shops where only hair-dressing is done. The marginate forms about the genitals may possibly be conveyed during impure sexual intercourse. All forms, however, are intercommunicable. Thus, a child getting a simple ringworm at school may be the source of *tinea tonsurans* upon its own head or the scalps of others of the household, and of parasitic sycosis upon the father; or the latter may bring it from the barber's shop and distribute it in turn among the family in several varieties. I have known young gentlemen to communicate it in this way to the faces of their affianced in several instances. I have also known a man to bear the disease in his nails, an occasional seat, for many years, and finally to produce from it a *tinea tonsurans* upon the head of his granddaughter. Lastly, the occurrence of the plant upon domestic animals, the cat, dog, ox, and horse, as a not infrequent source of contagion, is to be borne in mind. There is no reason for supposing any peculiar condition of the skin to be necessary for the development of the disease. There is no doubt a difference, according to individual cutaneous temperament and the general state of the economy, in the reaction of the skin under the parasitic irritation and in the secondary manifestations, but nothing more than I have observed. The case before us shows with what impartiality the plant attaches itself to all who come in contact with it.

The nomenclature of this affection is still in a state of confusion. *Herpes circinatus*, *herpes tonsurans*, *sycosis parasitica*, *eczema marginatum*, and several other distinct titles are used to designate what we have seen to be only various localized forms and stages of the same disease. It is important that we should use but one common generic name for all the vegetable parasitic affections, such as *tinea* or *mycosis*. We should then have for that which we are considering, in all its forms, *tinea trichophytina*. Nor is it desirable to use for the local varieties dis-

tinct titles, as if they were in any way separate affections, as *tinea circinata* for the general surface, *tinea tonsurans* for the scalp, and *tinea sycosis* for the beard, for the one may become the other at any time upon the same host. It would be better to speak of them as the circinate form, etc., of *tinea trichophytina*.

*Treatment.* — In discussing the treatment of all vegetable parasitic affections of the skin we must consider what we have really to do. We have certain changes in the cutaneous tissues and appendages, which are secondary, and with them there is a foreign vegetable growth. If we destroy the latter, the former will generally disappear at once. The problem, therefore, is to bring in direct contact with the fungus such substances as will kill it and yet not injure the skin. Unfortunately, those which act most rapidly upon the plant cannot be used for a considerable time without danger of irritating the skin, and if they be used to this degree the products of inflammation poured out upon the surface will protect the plant against the farther action of the remedy, or the inflammation may be so severe that it must be suspended for a time. Now it is necessary in some forms of the disease that the remedies should be employed for long periods, for in no other way can they be made to come in contact with the fungus. In the ordinary circinate or ringworm stage upon non-hairy portions of the body the growth of the plant is quite superficial, and very simple agents are often sufficient to work an immediate cure; such popular remedies as gunpowder and vinegar, vinegar in which a cent has been soaked, tincture of iodine, etc., when applied to the parts are often effective. It is in such cases that the milder class of remedies commonly used by physicians, if thoroughly employed, are all-sufficient for the cure. Among these are acetic acid, carbolic acid in various forms, iodine, solutions of sulphurous acid, preparations of tar, etc. The danger in relying upon them is that the disease appears to be well before the growth in the lower layers of the epidermis is destroyed. Treatment is therefore stopped, and relapses follow. Such imperfect treatment of the first stage of ringworm by the physician is a frequent cause of the more serious forms of the disease. Generally speaking, it is necessary to continue treatment of the simple circinate variety long after all traces of the disease have disappeared. I am in the habit of telling patients that they must treat the disease the last half of the time by memory. When it affects hairy parts, as the scalp or beard, the time required for a cure is always much longer, and is certainly a matter of months, sometimes of many months. We have seen that the plant after a time extends to the very base of the hair follicles in these parts, that is to the extreme depths of the skin. It is necessary, therefore, to make our parasitocides penetrate to these depths, else they will not come in contact with the growth nor destroy it. Now not only are the spores within the follicles protected from such action



by the presence of the hairs, but these are themselves filled with the cryptogamic growth. It is evident, therefore, that if we pull out the affected hairs, we not only remove a part of the disease at once, but also open the hair sacs to the entrance of our remedies. Epilation, then, must be regarded as a necessity when the disease affects the beard or scalp. I do not mean to say that some cases may not recover without resorting to it, but that the cure is vastly more uncertain and protracted. Not only the stumps within the affected districts, but the hairs immediately surrounding and not yet showing signs of disease should be removed. They are easily extracted by a broad-bladed forceps, and should be burned as soon as pulled. There is, of course, no danger of permanent baldness from such pulling, and the new growth which follows has to be removed in some cases a second time. As many hairs should be extracted as possible at one sitting without producing too much irritation in any one portion of the diseased patch. The choice of parasiticides must depend in some degree upon the seat, extent, and surface condition in individual cases. Where the accompanying eczematous inflammation is especially severe, as in Hebra's eczema marginatum and in some cases of sycosis, or where the deeper-seated inflammation of the latter form is intense, it is sometimes necessary to employ a preliminary treatment for the reduction of such inflammatory conditions before the proper antiparasitic remedies can be used. The form and strength of the parasiticides are also to be determined by the seat and stage of the disease. For its circinate forms either washes or ointments may be used indifferently, on account of the superficial growth of the plant, but when the scalp or beard is affected an ointment is to be preferred on account of the more ready penetration of the agents employed in this form to the deeper portions of the skin. A long list of articles might be named which have a greater or less destructive power over the fungus, among the most active of which are sulphur and sulphurous acid, creasote and carbolic acid, the bichloride and nitrate of mercury. Their action may often be combined with advantage.

Recently a substance called Goa powder has been used in this and other cryptogamic growths upon the skin. This material, from a South American plant, imported into India from Bahia, where its antiparasitic reputation was established mainly in the cure of Burmese ringworm, owes its active properties to the large amount of chrysophanic acid it contains. It may be applied by moistening the parts with water and rubbing in the powder daily; by making it into a paste with water or vinegar, and applying it in the same way; or the chrysophanic acid obtained from it or from other sources may be directly used upon the affected parts in ointment or other form. In all such ways it discolors the skin, and sometimes excites an excessive degree of inflammation of its tissues. In the superficial circinate stages, as you have seen, it is

an efficient agent, but in the deeper-seated varieties upon hairy parts the powder probably would be ineffective. The acid, however, in the form of an ointment (grs. xv., lard  $\mathfrak{z}$ i.), by penetrating more deeply might eventually work a cure.

For the ordinary superficial circinate forms a solution or ointment of corrosive sublimate (grs. ij. to  $\mathfrak{z}$ i.), if the surface affected be not too extensive, may be applied twice a day as freely as the skin will allow without overstimulation. Upon the face and parts exposed to view these may be used to advantage, because they do not discolor the skin. Sulphurous or carbolic acid in solution may also be applied with success, though less certain in their action. They should all be used much longer than the appearances seem to require. When the disease affects the beard or scalp, and has already invaded the hairs, our remedies must be used for a long time, and in connection with epilation. I generally advise some such course as follows: at night an ointment made up in varying, but substantially these proportions — hydrarg. am. chlor.  $\mathfrak{z}$ i. (or ung. hydrarg. nit.  $\mathfrak{z}$ i.), creasote gtt. xv., sulph. flor.  $\mathfrak{z}$ ss., lard or cosmolin  $\mathfrak{z}$ i. — is rubbed thoroughly into and a little beyond the affected districts. In the morning this is washed off with soap, with soft soap if well borne, and epilation is then performed. Immediately afterwards the officinal solution of sulphurous acid is sopped freely over the parts, which are then left to themselves for the day. The face will not stand as rough treatment as the scalp, and we are often obliged to use soothing applications, as zinc or diachylon ointment, by day to counteract the over-activity of the nocturnal remedies. Beware of any so-called quick cures; they are impossible. Sure results are to be attained only by the long-continued use of the most active remedies thoroughly applied. Even by such use of them, and long after we have tired out the faith and endurance of patients and attendants, relapses will often occur when treatment is given up, because we have left undestroyed in the deep recesses of some hair follicle a single spore of the many millions we first attacked. Never be persuaded, therefore, by a mother's or patient's importunities to consent to a premature relinquishment of your course, or fail to state, before beginning, the probable length of the cure.

Of internal treatment nothing need be said, as none is ever required, or is of any direct influence upon the destruction of the parasite. It is demanded only when the effects of the latter upon the cutaneous tissues show that the system needs such attention.

In this case the kitten shall be destroyed, to prevent farther mischief, although the disease upon animals may be cured in the same ways as upon man.

The clothing worn next the parts affected should be soaked in boiling water or destroyed, as in all cases of the disease, and the brushes, combs, and other articles which have come in contact with the diseased skin should be treated in the same manner.



## A CASE OF UTERINE FIBROIDS.

BY ISAAC F. GALLOUPE, M. D., LYNN.

MRS. ISABELLA S., fifty years of age, mother of two children, the youngest of whom is nineteen years old, called me in the early part of last June on account of profuse uterine hæmorrhage, occurring at a menstrual period; to indicate the extent of the bleeding a number of large coagula were shown me, together with several napkins saturated with blood. On digital examination the cervix and os uteri were found to be normal both as regards size and position. A long, stringy clot, however, was hanging from the os into the vagina. She had been confined to her bed several days on account of weakness from loss of blood. Her skin was blanched, lips pale, and muscles flaccid; she was emaciated and very nervous. There was no enlargement of the uterus apparent, but there was great tenderness, especially in the right ovarian region. For several years the menstrual period had been prolonged, and hæmorrhage had occurred at irregular intervals. There had been at all times great tenderness on pressure in the right ovarian region, but at the approach of and during each menstrual period the pain became severe and paroxysmal in character; it came on suddenly upon leaving the bed in the morning; she was generally obliged to resume the horizontal posture, and it was only after several attempts that she was able to get up. Paroxysms of pain would seize her many times during the day, compelling her to lie down and apply remedies. Hot applications generally soon subdued the pain.

Simultaneously with the commencement of menorrhagia there occurred another symptom which, so far as my knowledge extends, is unique as dependent on uterine irritation. Two or three days before the appearance of the menses the skin of the lower extremities became cold, and a pricking and itching commenced and rapidly increased until the whole cutaneous surface became affected with violent itching that continued, with intervals of relief, until the second day after the establishment of the menstrual flow, when this symptom would disappear. As time passed the pruritus increased in severity and duration until it became nearly continuous, rendering the patient's life one of great torment from which there were but few periods of relief. It was noticed that the occurrence of a storm would invariably usher in a paroxysm, and so sensitive to dampness did the skin become that wiping it with a damp towel would cause agony, and at last the approach of a storm, the existence of a fog, and even a heavy dew, coming on while she was asleep in bed, protected by closed windows and woollen blankets, would cause a visit from her tormentor; during dog-days her discomfort was without intermission. Worn down by intense suffering and loss of blood, she would go to bed at night, tired out, and sink into a sound sleep;

in about an hour her sleep would be disturbed; by degrees she would become conscious that her enemy was at work; she would toss about the bed in agony, then spring to the floor, rub herself violently with both hands, fly from room to room, beside herself, and at last, after two or three hours' suffering, sink exhausted upon the bed and fall asleep. She has declared to me over and over again that her life was a burden, and that she would be glad to be relieved from this curse at any cost, even of life itself.

Her skin was at all times free from eruption, and had no other abnormal tendency except coldness.

Several eminent physicians had been consulted, and many remedies both internal and external used without benefit; indeed, the latter never failed to aggravate the suffering, involving, as most of them did, the application of moisture to the skin. A hypodermic injection of morphia was once tried; it relieved the itching in about two minutes, but vomiting was induced, and continued all day, greatly exhausting the strength.

On the 16th of August my services were again required. She had been flowing profusely for three days, and had, during that time, suffered much from constant pain in the hypogastric region, with frequent exacerbations like (as she said) labor pains. She was very weak and despondent; her skin was anæmic and dry; pulse 120 and feeble. She was advised to take half a drachm of fluid extract of ergot once in two hours, to apply iced water to the hypogastrium to check the bleeding, and a suppository of morphia and belladonna was used to ease the pain. On the next morning, the symptoms not having abated, a digital examination was made, when the cervix was found to be obliterated, the os dilated and occupied by a protrusion the size of a large orange, evidently a fibrous tumor. The use of ergot and the suppositories was continued, and a tampon applied wetted with Monsel's styptic. On the day following, after etherizing the patient and removing the plug, the tumor (it being then partially in the vagina) was seized by the fingers, and by dragging, torsion, and diligent use of the finger nails applied to the pedicle was severed and removed. It was smooth, lobulated, about the size of the fist, and weighed six ounces. There was no hæmorrhage, but the patient suffered considerably from shock. For the first time in the history of the case, there appeared a copious watery discharge; it was foetid, but not of a putrid odor, and was rendered odorless by a few injections of bromo-chloralum.

The pain ceased and she gained strength for three or four days, and was congratulated upon her delivery at last from her distressing and dangerous ailment. At the end of five days, however, the pain returned with great severity, accompanied by hæmorrhage. On examination the os was found to be dilated and filled by a smooth body the same as



before. Ergot was again given, and on the 27th of August another tumor was removed in the same way as the first one; it was more dense and fibrous than the previous one, the end of the pedicle remaining in the uterus, feeling hard like the end of a walking-stick; it weighed four and a half ounces.

Pain, loss of blood, and intense nervous excitement combined to bring the patient to a very low condition. About two hours after the last operation she had a severe rigor that continued two hours, notwithstanding the prompt and thorough application of external heat and the use of hot brandy and water internally; her pulse was scarcely perceptible, and could hardly be counted; countenance pale and sunken. When reaction came on it was proportionately severe, with flushed face, headache, and a temperature of 105° F. A highly febrile condition continued three or four days without, however, any local symptoms, when she began to convalesce. She continued gradually to improve, but was not strong enough to leave the bed until after two weeks had passed. Neither the pain nor hæmorrhage returned, and the pruritus has ceased to claim much attention; at the end of four weeks her health was better than it had been for several years previously.

On the 27th of September the menses returned, and were perfectly normal for four days, when fresh blood and small coagula appeared; moderate bleeding continued until the 18th of October, when it was stopped by a single injection of half a drachm of Monsel's styptic in three times as much water. Doubtless this hæmorrhage was due to the fact that the patient took much active exercise, and rode from six to twelve miles daily during and after the menstrual period. On the 30th of October, and regularly since then, the menses returned and departed in a perfectly normal manner.

This case illustrates many points of interest in the development and termination of uterine fibrous tumors, notably the benign and partially successful efforts of nature for their removal. The pruritus was remarkable both on account of its severity and its remote and exciting causes.



## OCCLUSION OF THE VAGINA, WITH RETAINED MENSES, OF FIFTEEN MONTHS' STANDING.

BY GEO. A. JORDAN, M. D., WORCESTER.

Mrs. B., aged twenty-eight, married eight years, with no hereditary predisposition to disease; has borne two children, three and six years of age, respectively. She had enjoyed good health until the birth of her second child, when severe post-partum hæmorrhage occurred, lasting some weeks, producing extreme prostration, with paralysis of the lower extremities. This condition remained five or six months, when

she gradually regained strength and the use of her limbs. She was then informed by her medical attendant that there was "extensive ulceration of the womb," and he treated her, she said, with caustics. About this time the catamenia appeared once, after which pelvic pain recurred regularly every four weeks, lasting from seven to twelve days. During one of these attacks I was called, and found the patient emaciated and anæmic, with severe pain in the back, loins, and pelvis. The skin was bathed in profuse perspiration, the tongue coated dark-brown, and the bowels were constipated. A tumor, the size of a child's head at term, could be felt above the pubic arch through the very thin abdominal walls; by pressing the fingers down between this and the pubes, a constriction could easily be distinguished, corresponding with the cervix uteri at the fourth month of gestation. Per vaginam the finger could pass about two inches only, when firm resistance was met; in all directions the same tense, smooth surface was felt, except a small roughened or elevated spot corresponding in position with, and at first thought to be the os.

After building up the general health of the patient, an aspirator, with a very small needle, was used to test the contents, which proved the diagnosis to be correct by the discharge of a dark, chocolate-colored liquid; feeling sure that we had a case of retained menses, a trocar was introduced, care being used to follow the axis of the utero-vaginal canal. On removing the trocar some eight ounces of this dark grumous fluid escaped. Wishing the evacuation to be gradual, no force was used, but after removing the canula and placing the patient comfortably in bed I left her, expecting to use the probe or to enlarge the opening at my next visit, but within an hour uterine contractions commenced, expelling large quantities (about two quarts) of the same fluid, which gradually assumed a more watery consistency. The patient became very much prostrated, but responded kindly to the active use of tonics and stimulants. At this time the distance from the artificial opening to the fundus was four and a half inches. The discharge gradually grew less, but with a decidedly foetid odor, until the third day, when the temperature stood  $104^{\circ}$  F., pulse 146, with frequent chills. In the next three days, under the use of disinfecting injections with active stimulation, the temperature fell to  $100^{\circ}$  F., pulse 100, without any disagreeable symptoms except slight pain in the pelvic region. She was able to sit up two or three hours a day without fatigue, and said she felt quite comfortable.

June 25th, ten days after the operation, the signs of peritonitis suddenly developed, with profuse diarrhœa. Active treatment was persevered in with apparently beneficial results, as the violent symptoms subsided, and the general condition seemed to improve until the 28th at eight o'clock P. M., when vomiting of stercoraceous matter com-



menced, lasting three hours before it was controlled. She did not rally from the great prostration following, but died at eight o'clock the next morning.

Post-mortem examination eight hours later showed general peritonitis and pelvic cellulitis. The peritoneal cavity contained some two quarts, and the pelvic some ounces of fluid. The uterus was very much enlarged and its walls were thickened uniformly in all parts, the lining membrane being discolored by recent contents. The ovaries and Fallopian tubes were healthy or but slightly congested.

The occlusion was found to be in the vagina about two inches from its uterine extremity. The posterior uterine surface was firmly bound down by adhesions, upon removing which many small collections of pus were found, the result of inflammation that was not suspected in life.

The fact that menstruation had never returned but once after confinement, and then to be followed regularly every four weeks by all its symptoms but the "show;" her treatment at the time; the position of the occlusion, which, being vaginal, did not at first receive the full force of the uterine contractions, thereby preventing rupture of the recently united surface, until they had gained sufficient strength to resist the increasing mass, and the exclusion of other probable causes, such as syphilis, criminal abortion, etc., lead me to suggest the use of caustics as the cause of this case of vaginal occlusion.

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## RECENT PROGRESS IN THE TREATMENT OF THORACIC DISEASES.

BY F. I. KNIGHT, M. D.

*Acute Primary Œdema of the Lungs, rapidly Fatal.* — Whilst Œdema of the lungs as a secondary complication of various diseases is an every-day occurrence, as a primary affection it is extremely rare. Cases are reported now and then, especially in old people. The following case<sup>1</sup> occurred in a young man, a waiter, twenty-five years old, and was fatal in a few hours. He was brought to the hospital at half past three o'clock in the afternoon suffering much dyspnœa. He was perfectly conscious, and stated positively that up to the morning of the same day he had been in perfect health. He had attended to his duties the day before and up to two o'clock in the morning of the day he became sick. He did not feel that he had taken cold or strained himself. The room had not been very full of tobacco smoke, nor had he drunk an unusual quantity of beer or liquor. He got up well in the morning, and went into the restaurant. About eight o'clock he fainted,

<sup>1</sup> Strümpell, *Archiv der Heilkunde*, 2 Heft, 1877.

without known cause, and had to be carried to his room. He soon recovered from this, but complained of severe dyspnœa, and was withal so weak that he was sent to the hospital.

He was of medium size, and pretty well nourished. There was marked cyanosis of the skin and visible mucous membranes, and accelerated, labored respiration. There was no dullness on percussion over the lungs, but on both sides, front and back, moist râles could be heard on auscultation. Nothing abnormal was noticeable on examination of other organs. The temperature was normal; the pulse 116, tolerably full at first. The pupils were equal, rather small, and reacted sluggishly. He complained of great difficulty in breathing and some headache. He vomited once spontaneously, soon after admission. In the course of the next two hours the râles increased, the dyspnœa became more urgent, and the cyanosis more marked. The nose and extremities were cool. About five o'clock his mind became dull; he grew drowsy, and soon comatose. On auscultation of the lungs very numerous, moist, medium-sized râles could be heard everywhere. The pulse became small and very frequent. Just before death a few slight spasms were noticed in the right arm. Death ensued, in spite of emetics, counter-irritants, venesection, and faradization of the respiratory muscles, at six o'clock in the afternoon. The temperature remained normal up to the time of death.

*Autopsy* on the next day showed a few livid spots, noticeable rigidity. The scalp, skull, and membranes of the brain were very hyperæmic. The brain was tolerably firm, contained a moderate amount of blood, and was not œdematous; nothing abnormal otherwise perceptible in it. The lungs on both sides were filled with blood, and gave out a profuse bloody serum everywhere on section. There was nowhere any infiltration. The heart was strongly contracted, in other respects normal (not fatty). The liver, spleen, and kidneys showed nothing more than excessive hypostatic congestion. The urine taken from the bladder contained no albumen. There was chronic catarrh of the stomach and intestine, and in a few places there were small ecchymoses in the mucous membrane. The other organs showed nothing worthy of mention.

*Paracentesis of the Pericardium, with an Analysis of Forty-One Cases.* — Dr. John B. Roberts,<sup>1</sup> of Philadelphia, gives an interesting *résumé* of this operation from the earliest times, with the indications for treatment and the general results that may be expected. Riolan first proposed it in 1649, but Romero performed the first successful operation at some time before 1819. Paracentesis is indicated when the effusion is large and threatens to destroy life, ordinary treatment failing to produce absorption. The period that the surgeon must allow

<sup>1</sup> New York Medical Journal, December, 1876. New York Medical Record, January 20, 1877.



to elapse before tapping is as yet undecided. As a method of giving relief in chronic cases it is probably no more open to objections than is excision of the breast or tongue for cancer. The particular method of operating is now tolerably uniform. A small aspirating needle is to be used, — so small that it simply makes a fine puncture that would not harm the lung if that were pierced. The point recommended by Dieulafoy is in the fifth interspace, about three quarters of an inch from the edge of the sternum. In fifteen out of thirty-four cases this point was chosen.

The dangers to be dreaded are wounding of the internal mammary artery, and striking the heart as it is thrown forward in systole. By adopting Dieulafoy's plan the artery is avoided, as it lies from a quarter to half an inch from the edge of the sternum. Injury to the heart may be avoided by having a canula slide over or within the needle, thus guarding its sharp point. The heart may probably, however, bear a certain degree of injury with immunity, according to Eve, Steiner, and others. Baizeau and Roger tapped the ventricle without doing harm, both patients surviving the operation, though in one case one hundred and fifty and in the other two hundred and fifty grammes of blood were drawn. As for the danger of the operation in these forty-one cases, regarding one in which the final result was not given as a fatal case, the mortality was 53.66 per cent. But then the effusion in many of them was merely a single factor of disease; in fact, in seventeen there were other concomitant and often incurable affections. In five fatal cases no other disease was mentioned, which puts the mortality at 12.19 per cent., supposing it to have been from cardiac dropsy alone. Since the year 1850, of the uncomplicated fatal cases the mortality has been 21.43 per cent., which, though not so low as the figures given for all the uncomplicated cases taken together, is perhaps as low as in many other operative procedures that are regarded as perfectly justifiable. In acute rheumatic pericardial effusions the results have been excellent; where, however, the disease becomes chronic a perfect cure is almost hopeless, for, owing to the long continuance of the inflammation, the maceration of the heart, and the pressure of the distended sac, the tissues have assumed new pathological characters.

*On the Change of Serous into Purulent Pleuritic Exudations.* — Dieulafoy<sup>1</sup> denies that serous exudations become purulent in consequence of puncture, and believes furthermore that in case an effusion appears serous on the first puncture and purulent on the second, it really had the latter quality in the beginning. Observation of twenty-two cases has taught him that there is no pleuritic exudation so simple that it does not contain at least twelve hundred red blood corpuscles to the

<sup>1</sup> Gazette hebdomadaire, 32, 1877. Centralblatt für die medicinischen Wissenschaften, 42, 1877.

cubic millimetre of fluid, and that frequently the number is forty-five hundred or more without their giving the fluid a reddish tint. These are the exudations which seem quite clear on the first puncture, and subsequently become purulent. Attention is called here to the analogy between pleurisy and pneumonia. There is a stage of engorgement in which the red corpuscles prevail; then these proportionately diminish whilst the white corpuscles increase enormously, a condition which would correspond to the stage of gray hepatization in pneumonia. As little as every pneumonia passes into this stage, so little does every pleurisy become purulent. How long the stage of engorgement in pleurisy lasts cannot, in the manifold presentation of the disease, be determined even approximately. These "histologic" hæmorrhagic exudations, which do not appear bloody to the unaided eye, differ materially in their course from those markedly hæmorrhagic effusions which occur after injuries and in tuberculosis and cancer, and have no tendency to become purulent.

*Hæmoptysis ; Subcutaneous Injection of Ergotine.* — Jos. Hirschfeld<sup>1</sup> says that among the therapeutic measures used against hæmoptysis cold deserves some recognition, as it, by reflex action, produces constriction of the vessels and diminution of their calibre, and so facilitates the formation of thrombi. The internal use of ice is to be preferred to the external application of cold. Any therapeutic procedure against hæmoptysis is essentially aided by deep inspirations (recommended by Niemeyer), provided the hæmoptysis does not come from a cavity. The expansive force of air breathed in and held in the lungs as long as possible exercises, evidently, a pressure on the walls of the vessels and on the gaping wound. The forced inhalation of astringents has not answered expectation. Styptics, such as alum, lead, tannin, chloride of iron, etc., taken internally effect but little, and often disturb digestion. Of the narcotics, digitalis deserves special consideration, as it will show a beneficial although not a rapid action when the heart is excited, and especially when an uncompensated affection of the heart is the cause of the hæmoptysis.

The sovereign remedy against hæmoptysis is ergotine, which, as is well known, excites the vaso-constrictors. A solution in glycerine (1:10) is better than a solution in water, as after long standing it shows but little sediment and no fungi. After the injection the spot injected becomes very sensitive, with some heat, followed by redness, which disappears in eight or ten hours. If the patient is much excited or has much cough the author is accustomed to precede the ergotine injection with one of morphia, or to give them both at once but in different places. In this way, the patient becoming quiet in mind and body, the ergotine has a better chance to act.

<sup>1</sup> Wiener medicinische Presse, No. 22, 1877.



*Respiratory Changes in the Pulse ; Pulsus Paradoxus.* — [Franz Riegel.<sup>1</sup>] Griesinger, in the year 1856, first reported a case in which the pulse became weaker or disappeared with every inspiration. On autopsy a fibrino-purulent mediastinitis was found. The inspiratory weakening of the pulse was here produced by the action of the expanding thorax on the adherent aorta. Two analogous cases were afterwards (1873) reported by Kussmaul, who, on the strength of Griesinger's observation, diagnosed fibrous mediastino-pericarditis, and the autopsies confirmed his diagnosis. Kussmaul gave several pulse tracings of his patients, which showed very clearly the inspiratory weakening of the pulse, and he proposed for this variety of pulse the term *pulsus paradoxus*, now in general use. Only two other cases have been reported, one by Bäumler and one by Traube, in which, however, no change in the mediastinum, but a large pericardial exudation was found. Traube, however, did not attribute the peculiarity of the pulse in his case to this, but to great thickening of the pericardium. Riegel had two cases, in one of which he felt sure there was neither mediastinitis, pericardial effusion, nor, considering the short duration of the affection, much thickening of the pericardium. He afterwards examined more than seven hundred sphygmographic tracings, and in all of them found (1) a relative inspiratory weakening (*pulsus paradoxus*), (2) a relative inspiratory rapidity of the pulse, and (3) an inspiratory increase and lowering of the impulse. These changes were especially marked when the inspirations were deep. The patients were usually between fifteen and twenty-five years of age, and most of them convalescents, who were perhaps still a little weak, but certainly had none of the affections supposed to be necessary to produce such changes in the pulse. These phenomena are attributed by Riegel simply to the well-known diminution of blood pressure within the thorax with inspiration, and increase of it with expiration. Although these records show that every case of *pulsus paradoxus* does not signify fibrous mediastino-pericarditis, the author does not undervalue the cases of Griesinger and others, referred to above, but thinks attention should be paid to other characters of this pulse as indicated; evidently a pronounced form of *pulsus paradoxus*, with almost complete disappearance on inspiration, will never be confounded with these physiological occurrences.

*Systolic Retraction of the Intercostal Spaces.* — Von Widmann<sup>2</sup> writes that while, undoubtedly, systolic retraction of the intercostal spaces has been often noticed when there were partial or complete adhesions of the heart and pericardium, with the pericardial pleura, to the costal pleura, it is also equally certain that these latter have in some cases been absent, and further, that, when present, retraction of the

<sup>1</sup> Berl. klin. Woch., No. 26, 1876. Allg. med. Central-Zeitung, 43, 1877.

<sup>2</sup> Virchow's Archiv, July, 1877. London Medical Record, November 15, 1877.

intercostal spaces has not always been observed. He regards as most important for the explanation of these phenomena the change in the axis of the heart's longest diameter during systole, namely, the shortening of the right-to-left diameter. He says the systolic retraction proves only (basing ourselves on the results of physiological investigations of the changes of shape and position which occur in the organ during systole) that the heart lies in an anomalous position, and chiefly that it is twisted so as to lie, instead of with its inferior surface forwards, with one of its lateral surfaces towards the thoracic wall, or, in other words, that it may turn round on its long axis, in which position it may or may not be fixed by adhesions. During systole the heart undergoes a diminution of its right-to-left diameter; if, now, one of these sides be in contact with the thoracic wall, it will be withdrawn during systole, and in consequence the atmospheric pressure will force in the intercostal spaces. But in spite of this twisting of the heart, these consequences may be prevented by emphysema of the lungs, collections of air in the pleural sac, or, if the heart be not hypertrophied, when its movements are very feeble or the intercostal spaces narrow and the thorax very unyielding, etc.; that is, when the forming elements, retraction of the left lung, hypertrophy of the heart, strong cardiac movements, etc., are absent.

*Diagnosis of Extra-Pericardial Adhesions.* — Riegel<sup>1</sup> points out what he considers an interesting diagnostic sign of adhesions between the pericardium and the border of one or both lungs: this is enfeeblement of the heart's impulse during expiration. He says that much attention has been paid to the influence of the respiratory phenomena upon the pulse and the tension of the arteries, but little to their influence upon the cardiac movements themselves; but it is easy to observe that under normal conditions the impulse is stronger during expiration and feebler during inspiration, which is easily accounted for by the changes in the position of the diaphragm and the anterior border of the lungs. But when adhesions have taken place between the pericardium and the edge of a lung, the reverse of the above occurs, as the lung on retraction pulls upon the pericardium and impedes the heart. He demonstrates this by cardiographic tracings of the apex beat in two of his cases, where after death these adhesions were found.

*Fracture of a Rib by Cough.* — Gillette<sup>2</sup> reports a case. The patient was a painter, suffering from advanced tuberculosis of the lungs. During a fit of coughing he completely fractured the eleventh rib on the left, without special subjective symptoms. Autopsy confirmed the diagnosis. Whilst collecting the examples of fracture by severe muscular exertion, Gillette calls attention to the fact that the ætiology of these spontaneous fractures is closely associated with the constitutional affec-

<sup>1</sup> Berl. klin. Woch., November 5, 1877. London Medical Record, January 15, 1878.

<sup>2</sup> L'Union médicale, 75, 1876. Allg. med. Central-Zeitung, 43, 1877.



tions of the individuals (syphilis, scrofula, etc.). The author, as a hitherto unmentioned cause, proposes lead poisoning, and reports the case of a house painter, who was accustomed to use lead, who, during his life, had suffered eighteen fractures.

*Strain of the Heart.* — Since the articles of Albutt and Treadwell<sup>1</sup> appeared, communications have been made upon this subject by Seitz and others. Münzinger<sup>2</sup> found heart disease very common among the Tübingen peasants who work in the vineyards, and fifty autopsies showed that pulmonary emphysema, shrinking and pleuritic adhesions, were present in unusual number, together with changes in the heart. He attributes this to the fact that men and women from their youth up are obliged to carry heavy burdens on their backs, and while doing this have insufficient food.

Münzinger, after a thorough consideration of the work done by the heart and lungs of one climbing with a load on his back, comes to the conclusion that the heart and lungs are affected simultaneously, emphysema, for example, not appearing first, and hypertrophy afterward, as a consequence of it, but emphysema and hypertrophy developing together. The symptoms do not entirely correspond with those of ordinary valvular disease. Relative insufficiency predominates, and weakness of the heart's action is constant. In one class of cases an abnormal number of inefficient systoles follow one another; in another class more numerous, several strong contractions are followed by a preponderating number of weaker ones (*delirium cordis* of the French). It is astonishing how much work can be done at times by subjects of the latter class in spite of the weakness of the heart. Murmurs are not constant in either class. The fatal result comes by increasing debility, always accompanied by symptoms of pulmonary congestion. The temporary capacity for work spoken of above cannot be accounted for by any change in the muscular organization, but must be sought in the nervous system. Professor Jürgensen adds to this article the remark that he never saw such affections in the lowlands.

*Obliteration of the Pleural Cavities and Loss of Lung Elasticity as a Cause of Hypertrophy of the Heart.* — Bäumler<sup>3</sup> calls attention to the importance of the elasticity of the lung as an aid to the heart's action, especially that of the right ventricle. A disturbance of the retractile force of the lungs must increase the work of the heart, and hence conduce to hypertrophy. Bäumler and his pupil Brudi have observed several cases in which the hypertrophy of the heart could be referred only to pleuritic adhesions. In the first case there was found complete obliteration of both pleural cavities, and hypertrophy of both ventricles

<sup>1</sup> JOURNAL, September 5 and 12, 1872.

<sup>2</sup> Deutsches Archiv für klinische Medicin, xix., 5 u. 6. Deutsche med. Woch., 36, 1877.

<sup>3</sup> Deutsches Archiv für klin. Med., xix., Heft 5 u. 6. Deutsche med. Woch., 36, 1877.

without valvular disease ; two other cases were similar, only dilatation and hypertrophy of the right side of the heart predominated. From the above it is evident that pleuritic adhesions must be borne in mind as a possible cause of obstruction to the pulmonary circulation. Bäumler considers that the recognition of these adhesions is often difficult, as, even when of considerable extent, they may diminish the mobility of the edge of the lungs but little.

In convalescence from pleuritic affections the author recommends that the recovery of lung elasticity be promoted by residence in high altitudes, if this is possible ; if not, by gymnastics, compressed air, etc.

(*To be concluded.*)

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### NEW YORK PATHOLOGICAL SOCIETY.<sup>1</sup>

THE second volume of the transactions of this society calls further attention to the wealth of material which its members have accumulated. It also elicits well-deserved praise, not only for the evidence it presents of the active interest taken by the fellows, but also for the unusual energy and promptness displayed by the committee on publication and by the editor.

The preceding volume was devoted to a consideration of affections of the nervous system and of the organs of respiration and circulation. In the present one the records of specimens relating to diseases of the intestinal canal, peritonæum, pancreas, and liver are presented in a form which will make them permanently and generally useful.

The table of contents includes among the two hundred and eight cases of intestinal disease many of obstruction from without and from within, of perforation, inflammation, and malformation. The list contains some of the more common affections, such as are likely to occur within the experience of any practitioner, and others so rare that only occasional instances arise during a long period of years in a densely populated centre.

An appeal is made to all interested in the objects of this society for assistance in the disposal of the two volumes now printed. As these are offered at a very low price, and as the early issue of a third volume is solely dependent upon the sale of its predecessors, it is certainly to be hoped that an appreciating profession will do its part in encouraging the good work now being performed by the New York Pathological Society.

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### THE MISSISSIPPI BOARD OF HEALTH.<sup>2</sup>

OF the sixteen state boards of health, twelve have published reports. The last has just come from Mississippi, and contains a large amount of interesting matter. Three members of their board are appointed from the State

<sup>1</sup> *Transactions of the New York Pathological Society.* Vol II. Edited by JOHN C. PETERS, M. D. 1877. Pp. 291.

<sup>2</sup> *First Annual Report of the State Board of Health.* DR. WIRT JOHNSTON, Secretary. 1877. Pp. 187.



at large by the governor; two from each of the six congressional districts are also appointed by him on the nomination of the State Medical Society, and they are the sanitary commissioners, each for his own part of the State. These fifteen physicians generously serve the public without even the payment of their traveling expenses. They have not yet the advantage of a system of registration of vital statistics, but have made the deficiency in that respect and the want of local boards of health less important, from the fact that their members represent and report on the health of the various parts of the State.

The increase of syphilis, pulmonary consumption, and drunkenness among the blacks is generally noted, while their ignorance, as in the Southern States generally, prevents proper attention to vaccination, and consequently small-pox is more or less ever present with them. One reporter states that seventy-five per cent. of the negroes returning from the war brought syphilis with them. Their death-rate is about double that of the whites, and their infant mortality is simply frightful. Among the better classes, diseases of the nervous system have enormously increased, attributable to the trying events of the war and its consequences.

In the eastern part of the State one half the sickness treated is said to be of malarial origin, especially in the swamps and wet lands, or in their immediate vicinity; for the medical opinion is that the malaria clings to the earth and does not travel more than half a mile from its source. Sleeping in the top stories of houses, a retreat to the high lands, or planting a belt of trees, to be a mechanical barrier, are recommended as a protection often efficient; the use of alcohol is not advised. Heavy rains followed by heat are given as the sole special immediate indications of severe epidemics of ague. The type and frequency of the disease have much changed since better draining of the land. Cholera and typhoid fever are rare, the water supply being almost never from surface-wells but from cisterns and deep-driven wells. Diphtheria and cerebro-spinal meningitis have occurred, a few cases, not severe, now and then, generally in persons broken down from malarial disease. Pneumonia, especially of a low type, is common. Pulmonary consumption and rheumatism, although there is much moisture of the soil, are reported as rare among the whites, common among the blacks. Diarrhœal diseases are given a place neither high nor low.

The above account appears to apply pretty well to the State, as a whole, so far as the reports go, except that where surface-wells are used typhoid fever is not uncommon; that on the Mississippi River the levees appear to prevent the proper drainage of the land and so cause malarial fever; that on the gulf coast cholera and oftener yellow fever occur, of which, however, very little is said; and that diphtheria, with a mortality of fifty per cent. of the cases attacked, has appeared here and there.

A form of anæmia peculiar to the South is reported to be common in the salubrious regions of the pine woods, and is thought to be due to an exclusively vegetable diet. The patients are pale, extremely debilitated, with dyspnoea and palpitation; the anæmia-souffle is heard throughout the chest, front and back. The same form of disease is found in the low regions, where it is thought to be due chiefly to continued exposure to malarious influences. The strange habit, so difficult to cure, of eating dirt is associated with the malady in the pine woods.

PRESCRIPTION WRITING.<sup>1</sup>

It is somewhat singular, in view of the importance attaching, either in fact or in the estimation of the laity, to a prescription, that care is not taken to make this little document more neat and orderly than is often done.

Recognizing the fact that a slovenly and highly abbreviated prescription is quite as likely to be the offspring of ignorance as of want of time, Dr. Gerrish has arranged a small part of the Latin grammar as an assistance for those whose knowledge of the universal language is limited.

Even in the strictly grammatical part of the book we think there are many whose Latin is rusty enough to find some points worth their notice; but this portion is preceded by a very practical chapter of rules for writing prescriptions, giving instructions which students are constantly asking for, and which many practitioners might with advantage heed. This chapter makes no pretense of instructing either in *materia medica* or therapeutics, but merely states in a clear and sensible manner the surest and neatest way of conveying to the apothecary and the patient the directions of the physician, with the least chance of mistake.

With nothing but approval of what he has written, we hope Dr. Gerrish, in preparing the second edition of his little book, which is likely to be soon called for, will reflect that as "it [Latin] is the only language in which it is practicable to write the international pharmacopœia," so the only system of weights and measures in which it is practicable to prepare this desirable work is the *metric*, and that he will thus lend his aid to a good cause.

To those for whom it is intended we heartily commend it, and strongly suspect that the apothecaries would be very grateful if all its precepts were heeded by older men, even if somewhat familiar with a language which, as Mr. Parrish puts it, it is just as well to recognize is not precisely the same as the tongue of Cicero and Virgil.

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WHEELER'S ORGANIC CHEMISTRY.<sup>2</sup>

This little work pretends to give simply the outlines of organic chemistry. The most familiar and important organic compounds are treated very briefly and concisely, and but little of theory is given for the reason, as the author states in his preface, that the reader is expected to be familiar with modern inorganic chemistry and the theory of chemistry in general. We do not find anything in the book which is not treated equally well in many of the text-books on general chemistry.

The book is of no special value to the physician or medical student, since

<sup>1</sup> *Prescription Writing, designed for the Use of Medical Students who have never studied Latin.* By FREDERICK HENRY GERRISH, M. D., Professor of *Materia Medica* and Therapeutics in the Medical School of Maine. Portland, Me.: Loring, Short, and Harmon. Boston: James Campbell. 1878.

<sup>2</sup> *Outlines of Modern Chemistry, Organic, based in Part upon Richel's Manuel de Chimie.* By C. GILBERT WHEELER, Professor of Chemistry in the University of Chicago. New York and Chicago: A. S. Barnes & Co. 1877.



those substances of importance to the medical profession are treated much more fully and practically in works which are always accessible to the physician. For example, the chemistry of urea, uric acid, hippuric acid, etc., may be learned much better from the ordinary works on the urine and urinary diseases, and that of the vegetable alkaloids and active principles from works on *materia medica* and therapeutics. W.

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### “DOGS AND HYDROPHOBIA.”

THE committee on agriculture at the State House commenced last week a hearing on the petition of fifty-four citizens of the town of Granby, asking an annual tax of ten dollars on every male dog, twenty dollars on every female dog, and that every dog owner be required to give bonds with good surety to pay all damage. This petition and hearing called forth, in a late issue of the *Daily Advertiser*, a letter under the above heading. The temporary agitation of the citizens of the town of Granby probably exaggerates their estimate of the amount of protection necessary against dogs; but if such exaggerations arise, as is natural, let them be met and moderated by quiet reasoning and well-established facts. A man who thinks himself in danger of hydrophobia is not disposed to appreciate sentiment about the “friend who never deserts us in time of trouble,” nor is the “presumption that the Almighty created dogs for some useful purpose” of much consolation to him, even though he be persuaded that a variety of distinct creations was indulged in.

As friends of man as well as of the lower animals, let us have all the reliable facts bearing upon this question which we can command, and calm unpartisan deductions drawn from them, but do not let loyalty to our sentiments or theories induce us to maltreat facts. There is no truth whatever that deprivation of the gratification of the sexual instinct is a cause of rabies; the best observations disprove it. There is not satisfactory proof that disparity of the sexes in numbers, and consequent contests for the female, is the cause of rabies; some observations tend to show that this may be a cause. Rabies does occur, and not unfrequently, in animals in the wild state, and “in countries where dogs abound (male and female).” Constantinople has several times been the seat of epidemics, in Algeria it is common, and it occurs in Egypt.

Rabies, more particularly of the so-called “dumb” variety, does exist in this neighborhood. It is stated that “in Massachusetts during the ten years ending with 1875, only three deaths were reported from hydrophobia.” Why stop short of the year 1876, in which alone four deaths were reported? Mr. Youatt does not state “that he has cured a very large proportion of the cases of ‘hydrophobia’ submitted to his care,” nor is our friend loyal to facts when he tells the public “that it is stated by the highest medical authority that comparatively few (some say not more than one in twenty or thirty) when bitten by a mad dog will take the disease.” John Hunter used to say “not more than one in twenty or thirty,” a statement rejected by all authorities since the introduction of careful registration and compilation of statistics. The psychical manifestations of disease in the dog, as in man, vary somewhat with the indi-

vidual animal; much good may be done by the distribution of the paper published by the State Board of Health, but all dog owners are not intelligent, and the very earliest symptoms of rabies are not always sure to attract attention, or to be clear even to the practiced observer, as Youatt himself acknowledges.

In regard to preventive legislation we will allow ourselves two quotations from Fleming,<sup>1</sup> whose work is so justly admired by the author of the letter referred to. In his preface he says, "The legislative measures suggested for adoption may appear to some lovers of the dog as unnecessarily severe, and inimical to the comfort of the animal; but any one who has had experience of rabies in man or the lower creatures will, I feel certain, agree with me that severity is absolutely necessary if the terrors of a terrible disorder are to be averted. I yield to no one in my admiration of and regard for the most faithful and affectionate animal man has domesticated, and I am convinced that the enforcement of these measures will not only benefit it, but will also spare its companions, human and otherwise, much serious risk and annoyance, pain, disease, and death." And again, in the remarks on the tax upon dogs, page 357, we find, "We have no reason, however, to come to any other conclusion than that a measure of this kind must be most efficacious in ridding the country that energetically resorts to it of a vast number of miserable and dangerous brutes; but to be really efficient the tax should be general and high, exception being only made in favor of dogs which are useful or whose services can be proved to be absolutely necessary."

In conclusion we beg to add our impression that in this community at the present time both the profession and the public are inclined to be skeptical rather than credulous as to the genuineness of any given case of apparent hydrophobia, and the gross appearances at autopsies do not settle cases of true hydrophobia except in a negative way.

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#### MEDICAL NOTES.

— *The Medical News and Library*, quoting our remarks on the services of our former colleague, adds: "In the retirement of Dr. Dwight medical journalism has lost a valuable coadjutor, and our contemporary an editor whose able pen undoubtedly did much to win for it the high esteem with which it is justly regarded."

— The death of Claude Bernard is announced from Paris.

— In England and Wales nearly twenty thousand children succumb yearly to measles and whooping-cough.

— The supreme court of Alabama, as we are told by the *American Practitioner* for January, has pronounced the following opinion: "A physician, like any other person, may be called to testify as an expert in a judicial investigation, whether it be of a civil or criminal nature, without being paid for his testimony as for a professional opinion, and upon refusal to testify is punishable for contempt."

<sup>1</sup> Rabies and Hydrophobia. Their History, Nature, Causes, Symptoms, and Prevention. By George Fleming, F. R. G. S. London: Chapman and Hall. 1872.



— For dispensing muriatic acid instead of peppermint water, to conceal the taste of castor-oil, a Philadelphia apothecary of long standing has been fined five hundred dollars, and imprisoned for six months.

— Dr. Bernhard Cohn (*Berliner klin. Wochenschrift*, October 29, 1877) has made a new application of the Esmarch bandage. By its means he successfully treated a case of phlegmonous inflammation of the foot, one of œdematous inflammation of the fore-arm, and one of white swelling of the knee-joint which had resisted every other form of treatment. The bandage is applied for from fifteen to sixty minutes daily until improvement is manifest. Dr. Cohn thinks the bandage acts chiefly by lessening or relieving the congestion of the part affected. Compression must be perfect, that is, must include both veins and arteries. To avoid needless pain the last turns should not be firmer than is necessary to check the circulation. Some questions in regard to details of the treatment require more experience.

— The same journal mentions the case of a boy who had eczema of the scrotum which was caused by the ova of the oxyuris vermicularis. They were found imbedded in the epidermis. The animal was conveyed to the part on the shirt of the boy, who had the habit of tucking the skirt backward between his thighs.

— *The Boston Gazette and Country Journal* for December 19, 1768, contains the following quaint advertisement:—

WHEREAS MANY PERSONS ARE SO

unfortunate as to lose their Fore-Teeth by Accident and otherways, to their great Detriment, not only in Looks, but speaking both in Public and Private:— This is to inform all such, that they may have them re-placed with artificial Ones, that looks as well as the Natural, & answers the End of Speaking to all Intents, by PAUL REVERE, Goldsmith, near the Head of Dr. Clarke's Wharf, Boston.

\* \* All Persons who have had false Teeth fixt by Mr. John Baker, Surgeon-Dentist, and they have got loose, (as they will in Time) may have them fastened by the above, who learnt the method of fixing them from Mr. Baker.

— By experiments on milk with electricity, Dr. Iles, of Baltimore (*Chemical News*, xxxvi.), is led to the conclusion that during thunder-storms oxygen is converted into ozone, which he thinks is the cause of the rapid souring of milk at such times. The increased acidity is due to the formation of lactic acid, possibly also some acetic acid.

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## LETTER FROM LONDON.

MR. EDITOR,— To-day's papers give long editorials to the result of last night's meeting of the Convocation of the University of London with regard to the admission of women to its degrees. I have brought from the stalls the *Standard*, *Times*, *News*, and *Oserver*, and hasten to give you a *résumé* of their one-and-a-half-column articles. In addition, each one devotes as much space to the report of the meeting. It is proper to observe that the *Times*, ever conservative, has lately committed itself to that false position, or rather falsely so called, of conservatism which is arrayed against innovation,

while the *Telegram*, representing the antithesis of the political issues of England, has fanned the flame of this inflammatory question of the higher education of women. I forbear to allude further to this journal out of deference to the motives which should guide a correspondent, who, if he err at all, should err first on the side of historical usage, and secondly in the subordination of his personal judgment. My letter will be a mere report of the meeting of last night in Burlington Gardens, Regent Street, and a brief sketch of the journalistic notices of it. You will thus have the popular view of this question before the medical articles reach you in course.

It is necessary to go back some years to obtain a correct understanding of this question in England, though it is worthy of remark that the English medical journals have surfeited their readers with editorials and correspondence upon it for the last twelvemonth. Like the *encores* of low caricature prevalent on the town and provincial stage of England, one has had this subject *ad nauseam*. As long ago as 1868 there was a move in favor of admitting women to degrees in medicine, which was the first form under which higher female education evinced itself. In 1876 Parliament passed the "Russell-Gurney Act," which provided that the "powers of all bodies entitled under the medical act of 1858 to grant qualifications for registration — that is, degrees qualifying persons to be registered as medical practitioners — should be extended to all persons without distinction of sex." Under this act the senate of the university assumed the legal right to open its doors and to offer its diploma to women as to men. The convocation, a governing body corresponding to the board of trustees or regents of an American university, offered three objections: first, that the senate would violate the spirit of the constitution, which contemplated no such fundamental change in the character of the university, which change must be effected by a new charter; secondly, the convocation objected, and most strongly its medical members, on the ground that the senate failed to make any proposals of change in the departments of arts, science, law, and theology, which, as yet, they could not do, either under the constitution or by any special act of Parliament; and the third objection was the possibility that the Russell-Gurney Act would not keep out the enemy from its own midst, — namely, the female graduate; upon this the knights of Chancery Lane and Temple Bar touched lances, and the lawyers were both divided and diverted. While none of the objections were radical, and yet all were of natural suggestion, there arose a demand for female practitioners as well educated as men, and the denial of degrees to them was regarded as unreasonable on the part of a large body of university men not in the senate nor in the convocation. From time to time the senate has made concessions to convocation, but yesterday a supplemental charter came before the latter body, incorporating the claims of the former in plain words, all collateral questions being put aside. Amid great enthusiasm the convocation, by a majority vote of two hundred and forty-two to one hundred and thirty-two, made women eligible to all the degrees of the university on a par with men. The supplemental charter contains a proviso that no female graduate of the university shall be a member of its convocation without a special resolution of admission. The natural course will be that the crown will be petitioned to grant the new charter to the uni-



versity; the official answer may, however, be easily premised, a refusal or a veto of yesterday's vote not being thought of. It is characteristic that all the prominent medical men opposed the charter, — Sir William Jenner with marked feeling. The meeting was called to order by Dr. John Storrar, who briefly stated its object and the issue in case of acceptance of the new charter. The room was crowded and the interest exciting. The proposition to accept the charter was moved by Mr. Bompas in a speech of moderate advocacy. Mr. T. Hensman, in seconding the motion, alluded to the fact that the chancellor of the university (Earl of Granville) and certain members of the senate had candidly stated their desire to admit women, not only to medical but to all degrees of the university, thereby doing away with the exclusiveness which obtained in their earlier movements. His very clever speech closed with an allusion to the catholic object of the university, — namely, to advance learning “amongst all classes of her majesty's subjects without any distinction, and that object could never be fulfilled until the distinction between the sexes was done away with [laughter] in such an institution [applause and laughter].”

Dr. W. Tilbury Fox was the first to oppose the motion, and he did so with considerable vehemence. While he was anxious to promote the acquisition of knowledge among women, he desired a more thorough investigation into the purposes of the new charter. He arraigned the chancellor of the university with a lack of dignity in issuing a circular on the subject, of which the only purpose could be to influence the votes of the evening. At this statement there was a lively buzz of commotion. He had already written, and caused to be printed and distributed, an answer to this circular, impugning the accuracy of the statements of the noble earl.

Mr. Thomas Tyler, M. A., was disposed to caricature the issue, though not opposed in the abstract to admitting women to the university degrees. He stated that ninety-nine out of every one hundred women were opposed to the movement. Said he, “If we are to confer the degree of B. A. upon a woman, would we render her better fitted, for example, to hold the position of a governess?” (This seems to be the highest capacity of woman in the Englishman's mind; I do not ask your readers in general to contrast this with the American conception of female education, but only those who have made themselves personally acquainted with such education in France to push the contrast there.) Mr. Tyler went on to ask, “Would we render her more acceptable to the other sex?” [Laughter.] The “educational hermaphrodite” seemed to be the *bête noir* of the speaker.

Dr. Richard Quain thought the proposition injurious to the institution as a whole, and ruinous to the medical department in particular. He regarded nothing more unfit than the practice by women of the medical profession in its entirety.

Sir William Jenner suggested that the chancellor had descended from his high position to issue an “electioneering circular.” While he would yield to no man in the desire to improve the education of women, he denied that such effect would be produced by obliging them to take the course of study through which it would be necessary for them to pass. He had “but one dear daughter, and he would rather follow her to the grave than see her subjected to such

questions as could not be omitted from a proper examination for a surgical degree." Sir William represents a large and influential public who object to the admission of women to medical practice on the ground that it will "unsex" them. This is a question which the women alone must decide. With it also comes the question of social economy, — the law of supply and demand. If the female patient demands a female doctor, there are no professional grounds why the claims of her modesty should not be listened to. On the other hand, it is highly improbable that all the applicants are to come from the position to which Sir William's daughter belongs. Not every woman has a father whose hands are to be held up in rebuke, or whose head is to be held down for shame. It is to be hoped that a sense of qualification, or necessity, or love for the work, will induce women to enter the Eden whose long-barred gates have been torn open for their entrance.

Professor Lister hoped that graduates of other faculties would not make haste to force upon their medical brethren a measure which he was convinced the majority of them regarded with utter detestation.

Dr. Bucknill provoked a bit of merriment, just before the taking of the vote, by saying that he regarded the higher education of women as mischievous.

The size of the majority vote indicates the dominant thought of the men at the university, while the remarks briefly noted above show the medical gentlemen, some of whose names are familiar to all your readers, to be opposed to the new move. There are reasons to predict that in a decade of years this spirit of opposition will largely recede, and this on account of several reasons. The most prominent medical gentlemen not connected with the schools favor the admission of women to degrees. I take the liberty to quote Mr. Spencer Wells, who, teaching in none of the eleven medical schools of London, but not the less prominent on that account, referred recently to the foolishness of putting stumbling-blocks in the way of medical studies for women. If they wish to study, said he, do not prevent it; stand back, and let them take their chances; for if they will study, you cannot help it. Mr. Berkeley Hill, of University College, is a strong advocate of the movement, while most of his colleagues are not. There is a singular position taken by some gentlemen, namely, that of apparent disinterestedness. One of these, a prominent author in surgery, remarked in private conversation that it was a matter of indifference whether English ladies studied medicine or not. To my observation that they were to be found in Vienna and Paris and in numbers at Zürich, he laughed and said, Well, no one cares anything about that. Why, then, the Czar of Russia takes more interest in the education of his female subjects than the English people in theirs, I remarked, for he has forbidden their going abroad under penalty of loss of residence. It is worthy of note that precisely this feeling obtains in several hospitals in London with regard to Mr. Lister's antiseptic surgery. Even in King's College, where his twenty-four beds are, you may witness the same apparent indifference to its employment. As to the latter, the fight — for it is nothing less than that — is characterized in London by a personal jealousy on the one side and by a firm conviction in a fundamental surgical theory on the other; with both questions success is only a question of



time. And again, it is to be noted that schools on the Continent opened their doors to women and adopted the antiseptic surgery in advance of the English schools. This, in regard to the latter, is the more remarkable, as Mr. Lister is an Englishman, and not, as is usually supposed, a Scotchman.

I will close by adding that about three years ago a "thoroughly respectable" medical school for women was opened in Henrietta Street, Russell Square, and that it now has twenty-five students. Regular lectures are given to the third and fourth year students in surgery, pathology, medicine, and obstetrics, as well as in the specialties, and to the first and second year students in anatomy, physiology, and chemistry. Last year the Royal Free Hospital in Gray's Inn Road was given to this school, the services being under its exclusive control. The faculty is an able one, the names of Mr. F. J. Gant, Mr. Critchett, and Mrs. Elizabeth Garrett Anderson being found on its list. It is under the patronage of several persons of rank, and its executive department is in good hands. The only university in Great Britain which, until now, allowed women to come up for medical examination was Queen's University of Dublin, but it had no power to place the successful candidates on the Medical Register. This is the *sine quâ non* of the British practitioner. It will be understood that the action of yesterday of the University of London grants its degrees to women, and entitles them to registration, so that every difficulty in regard to their practicing medicine and surgery is removed. Yours truly, E. S. P.

LONDON, January 16, 1878.

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#### DR. BENJAMIN HASKELL.

MR. EDITOR, — It is with feelings of deep regret that I announce to you the death of Dr. Benjamin Haskell, of this town, which occurred on the 21st ult. His disease was pneumonia, and of only five days' duration.

Dr. Haskell was born in Rockport. He received his collegiate education at Amherst and his medical at Bowdoin. He first commenced practice in South Boston, remaining there but a short time. He then went to Illinois, but soon returned to his native place, where he remained, in an active practice of nearly forty years duration, up to the time of his death. He was almost sixty-eight years of age, the oldest physician on the Cape, and the longest in practice. He was a man who held original ideas on several subjects, having a peculiar theory as to the physiology of the nervous system.

So great was the grief felt at his decease that a public meeting was held in the town hall on the 22d ult., to give expression to the universal sorrow. Addresses were made by a number of our citizens, all highly eulogizing him and extolling his character as a man and as a physician. Appropriate resolutions were passed, and ordered to be printed in the *Cape Ann Advertiser* and presented to his family.

Dr. Haskell was one of the kindest, most generous, and unselfish men I ever met, extremely conscientious, always doing what he thought was right, and never swerving from his duty, no matter what others might say or do. To the poor he was always kind and gentle, never neglecting the humblest of his patients. He was known, and I have often heard him spoken of, as the "poor man's doctor." His fee was the last thing he thought of. He said to me one day, "I don't practice for money only," and he did not, for he might have been far better off in this world's goods had he been less generous and less unselfish. To the young man struggling along in his own profession he was like a father, as I know from personal experience and observation, always having a word of encouragement and a hand outstretched in time of need, — and who of us has not felt the need of such a friend! "Take him for all in all we shall not look upon his like again," and in many a household here his memory will long be cherished with feelings of grief mingled with gratitude.

Yours very truly,

A. M. TUPPER, M. D.

ROCKPORT, February 2, 1878.

## COMPARATIVE MORTALITY-RATES.

	Estimated Pop- ulation, July 1, 1878.	Deaths during week ending February 2, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean of ten Years, '68-77.
New York.	1,093,171	513	24.40	24.32	28.71
Philadelphia.	876,118	305	18.10	18.80	21.54
Brooklyn.	549,438	176	16.66	21.51	25.50
Chicago.	460,000	118	13.34	17.83	22.39
Boston.	375,476	118	16.34	20.10	24.34
Providence.	104,500	42	20.89	18.81	19.20
Lowell.	55,798			19.09	22.50
Worcester.	54,937	20	18.94	21.07	22.30
Cambridge.	53,547	16	15.53	18.69	20.83
Fall River.	53,207	23	22.48	21.35	24.96
Lynn.	35,528	9	13.18	20.42	19.67
Springfield.	33,981	5	7.66	16.04	19.77
Salem.	27,140	8	15.33	20.38	21.15

OBITUARY. — We regret to announce the death of Dr. Simeon Tucker, of Stoughton, one of the oldest members of the Massachusetts Medical Society.

At a meeting of the Boston Society for Medical Observation, to be held on Monday evening next at eight o'clock, at its rooms, 36 Temple Place, Dr. Wigglesworth will read a paper upon Faulty Innervation as a Factor in Skin Disease.

BOOKS AND PAMPHLETS RECEIVED. — Cerebral Hyperæmia the Result of Mental Strain or Emotional Disturbance. By William A. Hammond, M. D. New York: G. P. Putnam's Sons. 1878. (A. Williams & Co.)

A Manual of Nursing; prepared for the Training School for Nurses attached to Bellevue Hospital. New York: G. P. Putnam's Sons. 1878. (A. Williams & Co.)

Annual Report of the Massachusetts Charitable Eye and Ear Infirmary for the Year 1877.

Eleventh Annual Report of the Board of Trustees and Officers of the Minnesota Hospital for the Insane to the Governor of the State of Minnesota for the Fiscal Year ending November 30, 1877.

Circular No. 10. Approved Plans and Specifications for Post Hospitals. Surgeon-General's Office, Washington, October 20, 1877.

The Mechanism and Treatment of Pulmonary Complications of Acute Cardiac Disease. By Beverly Robinson, M. D. (Medical Record.)

A Succinct History of the Plan of Treatment of Pott's Disease by Suspension and the Use of Plaster-of-Paris Bandage. By Lewis A. Sayre, M. D. (Richmond Medical Journal.)

On the Treatment of Psoriasis by an Ointment of Chrysophanic Acid, with an Appendix of Comments by various Authors. By Balmano Squire, M. D. Lond., Surgeon to the British Hospital for Diseases of the Skin. London: J. & A. Churchill, New Burlington Street. 1878.

Third Report of the Salem Hospital. Salem, Mass. 1878.

Surgical Uses other than Hæmostatic of the Strong Elastic Bandage. By Henry A. Martin, M. D. (Reprinted from the Transactions of the American Medical Association for 1877.) Boston: James Campbell. 1878.

On the Surgical Treatment of Peri-Typhlitic Abscess. By J. H. Pooley, M. D. Columbus, Ohio.

On the Uses of Wines in Health and Disease. By Francis E. Anstie, M. D., F. R. C. P. (Reprinted from the Practitioner.) London: Macmillan & Co. 1877. (A. Williams & Co.)



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## LECTURES.

BOSTON CITY HOSPITAL: CLINICAL LECTURE NO. III.

BY DAVID W. CHEEVER, M. D.,

*Professor of Clinical Surgery in Harvard University.*

*Traumatic Aneurism.* — GENTLEMEN: This patient is a girl aged twelve years. She was brought to the hospital on the 27th of October. Five weeks previous to her entrance she accidentally drove a pickle-knife into her thigh at its middle third. At the time of the accident a physician was called, who checked the bleeding by drawing the lips of the wound together by means of plaster. In a few days the thigh began to swell and pain increased. This condition of things still existed when she entered the hospital. The thigh was very painful, and there was a large, hard swelling which extended from a point two and one half inches below Poupart's ligament to the condyles of the femur. The tumor was firm, reddened in spots, tender, and slightly fluctuating. The signs made us suspect that it was a diffused suppuration under the fascia lata. I made an exploratory incision about an inch long and introduced a grooved director, but no pus followed. I then passed my finger into the wound, and it entered a large cavity filled with soft, spongy masses; on withdrawing the finger there issued numerous soft, black clots, and a pale, pinkish fluid which looked neither like blood nor pus. We soon saw, however, that it coagulated in the basin, showing that it was blood and consequently that a hæmorrhage was going on. A further proof was that upon compressing the femoral at the margin of the pubes the flow ceased; on relaxing the pressure it recommenced.

This revealed the true nature of the swelling. It was a traumatic aneurism connected either with the femoral or one of its large branches. It was evident that during the five weeks following the accident an enormous amount of blood had been gradually effused into the cavity, by repeated leakings. The child, previously anæmic, still under ether, grew very feeble, and was supported by an enema of brandy and water. Meanwhile a twist of rubber tubing was put around the top of the thigh, over a roller which covered the femoral artery just at its emergence

from beneath Poupart's ligament. Delay being criminal I at once cut freely into the swelling, making an incision five inches long. A small amount of bloody fluid escaped. Just below the fascia lata was found an immense organized clot, which looked like a heart; also many smaller clots in various stages from fresh to organized. The whole mass of coagula weighed one and a half pounds. Having carefully removed these clots I reached the femoral artery, and found that it had an oval opening, rounded by effused fibrin, and just opposite the site of the original puncture made by the pickle-knife five weeks before. With ligatures I secured the femoral above and below the opening and washed out the cavity. During the previous weeks collateral circulation had been pretty well restored in the foot.

The femur was found to be denuded of the tissues which ordinarily surround it, though the periosteum, except at one spot, was intact. The patient was put upon stimulants, milk, strong beef tea, and iron.

On November 3d a small slough was found on the little toe of the affected limb. Suppuration from the wound was considerable.

On the 5th of November the ligatures began to come away.

With the exception of one small point the wound is now healed (December 16th). It is kept open at this spot by the condition of the bone, which at one point is rough and denuded of periosteum. The little toe is partially sloughing, and is quite black on its plantar surface. The sloughing process has chosen this toe probably because from the beginning the position of the leg has been such that the foot has rested almost entirely upon its outer side.

The girl looks brighter; her color is comparatively good; her gums begin to show the beneficial effect of the iron, and her appetite is increasing. She has good motion in the wounded leg.

In this connection, by way of illustration, I will mention two other similar cases.

Some years since a carpenter fell from a staging and struck the corner of a hatchet into the middle of his thigh. The wound was dressed and closed up. When he was brought to the hospital, a few hours later, I found an oval tumor at the seat of injury. Opening the wound I removed from beneath the fascia lata a clot as large as a duck's egg, and secured the bleeding vessel, which was the *anastomotica magna*.

Last evening I was called to a little boy three and one half years of age, who, one week before, had fallen from a bench and struck upon his thigh. There was no fracture produced. I found him delirious, typhoidal, with an erythematous eruption, and a pulse of 180. The thigh was enormously swollen and fluctuating. With a small trocar I punctured the quadriceps muscle, just above and to the inner side of the knee, and drew off six ounces of thick pus.

The case of the carpenter was one of commencing traumatic aneu-



rism. The case of the little boy was one of rapid and very severe cellular abscess.

*Weeping Sinew.* — When we compare the two hands of this woman we notice a decided swelling on the back of the right hand. Our first question is as to the nature of this swelling. It is oval in form, irregular in outline, and, as there is fluctuation, it evidently contains fluid. In this location the probabilities are in favor of a bursa-like cyst of the tendon, commonly called “weeping sinew.” I like this term better than the word “ganglion.” It is more descriptive of the pathology of the swelling, which is of the same general character as that in housemaid’s knee or that of enlarged bursæ in any portion of the body. This affection is more frequent in females than in males, because the female structure is weaker. Sometimes this form of swelling communicates with the wrist-joint, or extends among many tendons and under the annular ligament, in either case being exceedingly troublesome. In the patient before us there is no such connection. If there were I could force the contents of the tumor back into the wrist-joint. My fingers, however, make no impression upon it, so that undoubtedly it is a sac connected with the extensor tendons. Notice how it is overrun with veins. It is one and three fourths inches long and three fourths of an inch wide.

Sometimes these tumors go away of themselves, as, for instance, in a young person who has a soft swelling on the wrist, the result of a sprain; it will perhaps disappear. But this is not the common history. The exciting cause varies. It may be a strain or overwork. The swelling occasionally comes on in those who play the piano. In this case the husband thinks that playing the guitar was the cause of the tumor. Now, the question is as to how we ought to treat the difficulty. The old-fashioned way was to break the cyst with a book, and thus disseminate the contents under the skin. What we wish to do is to empty the cyst, prevent the entrance of air, and set up adhesive inflammation. The danger is lest cellulitis be caused by admitting air or by a treatment too irritating; as, for example, by a seton. I propose to break up the cyst subcutaneously with a tenotomy knife, and then press out the fluid, for there is no use whatever in any treatment which is not thorough. I have advised the patient to submit to the form of treatment in which we let out the contents of the cyst, force the walls together, and afterward put the hand on a splint. The trouble might be cured by a seton, by breaking, or by laying open the cyst with a knife, but all these procedures are attended with danger.

I take a tenotomy knife and puncture the cyst. The fluid which flows so freely is the same as that which issues from a bursa or synovial cavity, and is evidently synovial fluid. Before it has all escaped and the cyst has collapsed, it is wise to put in the knife again and break up the

cyst. Here are gelatinous clumps in the fluid which are going on to form bodies much like melon seeds. It is they which give the swelling its semi-solid feeling. With the exception of some thickening of its walls the cyst seems to have quite disappeared. We now apply pressure in the shape of a disk of wood bound with lint, and bandage the hand and fore-arm to a splint. I am in favor of keeping the hand perfectly still for one week. Then we will open the dressings to see how it looks. If, however, the hand inflames so rapidly as to throb we will remove the bandage sooner. This will probably not be necessary. All methods of curing this lesion may fail the first time they are applied, and, as I have said, the swelling may go away of itself.

*Fracture of the External Condyle of the Humerus.* — Our next patient is an engineer, and is a strong, middle-aged man. Last night by a misstep he fell a distance of about five feet, striking the elbow on the outer condyle, and he complains only of the pain in this locality. Without ether any examination of the limb would be unsatisfactory. By using force we might flex the limb, but it is now held so spasmodically, by the powerful muscular contraction over which he has no control, that we must etherize him in order to relax this spasmodic condition.

The diagnosis of injuries about the joints is always very difficult. Our first step should be to give ether, and thus unlock the muscles; and this should be especially done in examining children who have fractures; for without ether their fear and struggles render it impossible to make a satisfactory examination.

In this case the blow struck the outer condyle of the humerus, and it is here that we look for the injury. If the patient had fallen on the floor he probably would have struck the olecranon. He is now under the influence of ether. When I compare the two arms I find that the injured limb has good motion; yet the injury probably partakes of the nature of a fracture rather than of a dislocation; for, while the left arm, on being moved laterally, is perfectly firm, the right fore-arm swings laterally. By grasping the patient's wrist with one hand and holding the thumb of my other hand over the seat of the fracture, and then rotating the fore-arm of the patient, I find that the head of the radius rotates normally and is entire. But a rough bony grating is felt above it. The olecranon is firm, the humerus is uninjured, as one can tell by rotation. There is no dislocation, but a fracture of the external condyle. We look for the fracture at a point corresponding to the site of the injury. The head of the radius rotates all right, and as the external condyle of the humerus is opposed to it we decide by the crepitus at this point that the condyle is fractured.

We will place the arm, somewhat supinated, on an internal angular splint, and keep it thus three to four weeks, moving it gently once every seven days. We complete the dressing, and make everything



firm before the patient comes out of his insensibility. He will then be comfortable, and cannot get the dressing out of place.

The question now is, Has the injury gone far enough into the joint to cause anchylosis? I think not. The probability is that we shall get union and fair motion.

*Hydrocele.* — This man has a swelling of the scrotum, which began seven or eight weeks ago. What is the nature of this trouble? Here is a hard, globular swelling, tapering toward the abdominal ring and terminating there. No impulse is communicated to the swelling by cough, proving that it is not a hernia, which would receive an impulse from a cough, and would disappear when the patient lay on his back. The swelling fluctuates; the testicle lies at the posterior portion of the sac. We have here what is known as hydrocele. The treatment consists of puncture with a trocar and evacuation of the fluid which distends the scrotum. In this case I use a small trocar, because the patient does not wish to stop work. The testicle, as you will see, is at the back, so that if we tap in front we are sure to avoid this organ. This operation can be safely done in your offices, and the patient can afterward go home without any inconvenience. I advise this man to wear a firm suspensory bandage for relief, and also to prevent a rapid refilling of the scrotum. Refilling usually takes place within a few weeks or in from four to six months. It is not well to pull out the canula too soon. If the procedure be not painful, we should manipulate the swelling at every part, and thus milk out the whole of the fluid. This will make the sac less liable to refill soon.

Two or three days ago a patient whom I had tapped one year before came to my office with a hydrocele. Refilling had taken place, and the parts now showed a curious condition of things. While turning in bed he accidentally squeezed the hydrocele between his thighs. The sac broke, and the contents became disseminated in the cellular tissue. The whole form of the swelling changed. A hydrocele became converted into an hæmatocele and a diffused dropsy. A rupture of this sort sometimes sets up adhesion and brings about a cure. I advised this patient to remain several days in bed, and then wear a firm suspensory bandage.

Puncture of the hydrocele should not be followed by bleeding. This would be unusual. We now strap the scrotum of the patient before us and apply the suspensory bandage.

— This patient comes to us requesting what is called the radical cure. His hydrocele was tapped six weeks ago, and has partially refilled. He now wishes to be cured. The swelling is large, pear-shaped, and very full on the left side. The left testicle is felt behind. On compression above, the fingers meet around the ring, finding no neck to the swelling. No impulse is communicated by cough. This is a tumor with

thin, translucent walls and filled with fluid. In what way can we effect a radical cure? In several ways: *first*, by injecting the tincture of iodine and then rubbing it about in the sac; *secondly*, we might cut open the cyst and let it heal by granulation; *thirdly*, draw a seton through it; *fourthly*, there is the French method, which consists in drawing off half the contents of the sac and substituting absolute alcohol. This method is sometimes successful, but the iodine injection is the best treatment. To lay open the scrotum is dangerous, because of possible sloughing; and the seton treatment is long and troublesome. One way of using the iodine is to inject a mixture of equal parts of tincture of iodine and water, and then draw it off again. Another method is to inject a small quantity of strong iodine, and allow it to remain in the sac. Before injecting, push the canula well up to its neck in the sac, so as to be sure that no iodine penetrates into the cellular tissue of the scrotum, where it might cause sloughing. The injection of iodine may in some cases be followed by severe pain, extending up the cord, confining the patient to his bed for a fortnight. I shall inject the ordinary tincture of iodine, of the undiluted officinal strength. I use one drachm and leave it in the sac. The patient must not walk after the operation, but must be put to bed to prevent the iodine from running out. If all goes as we wish, in twenty-four hours there will be a smart inflammation followed by adhesion of the opposite walls of the sac.

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## AIKEN, SOUTH CAROLINA, AS A HEALTH RESORT.<sup>1</sup>

BY ARTHUR H. NICHOLS, M. D.

It is only within the past quarter of a century that the influence of different climates and atmospheric phenomena upon the human organism in health and disease has been systematically studied; and even now this important agent continues to form a branch of therapeutics consistently and uniformly overlooked both in our text-books and medical schools. The physician is not unfrequently called upon to determine what climate is the most appropriate to the constitution and condition of different invalids, and to the particular disorders from which they are suffering, and it is therefore desirable that he should be somewhat familiar with the climatic characteristics of the prominent health resorts.

Until within a few years the watering-places of Southern Europe have held out superior advantages in the way of hotel accommodations, hygienic cookery, refined society, picture-galleries, and club rooms, — all valuable adjuncts in the treatment of despondent, depressed invalids, — and have therefore attracted the mass of those able to travel in

<sup>1</sup> Read before the Norfolk District Medical Society, November 13, 1877.



search of health; whereas the absence of such sources of diversion in our American resorts, their lack of easy accessibility, the dearth of trustworthy physicians, and, finally, the little attention paid by our native hotel proprietors to gastronomical science, have hitherto contributed to render American sanatoria unattractive to strangers, especially those suffering from impaired digestive functions. Since the close of our civil war, however, a very decided change for the better has been effected in the character of the larger health resorts of the Southern States, an improvement attributable partly to the influx of Northern capital, by means of which numerous well-equipped hotels have been started, and partly to the greater facilities for travel afforded by newly-built railroads and the introduction of that luxury of travel, the Pullman car; and as one result of this change the tide of European travel has been already in a measure stemmed. To-day the invalid who shrinks from the discomforts of an ocean voyage can go in one vehicle without change from Boston to South Carolina or Georgia in a journey of but forty-eight hours, while at the more frequented sanatoria, and notably at Aiken, St. Augustine, and Jacksonville, will be found commodious hotels answering every reasonable hygienic requirement, furnished with good taste, and capable of supplying a sound, well-ordered repast.

It was the fortune of the writer to make a short visit to Aiken in the month of January, 1877, and the following facts relating to the climate of this locality, which now takes front rank in the list of American health resorts, were collected in part upon the occasion of this visit, and have been in part drawn from the detailed description contained in a *brochure*<sup>1</sup> recently published by Dr. Wm. H. Geddings, one of the resident physicians of the place.

The prominent characteristics of the climate of Aiken are its mild winter temperature, with an abundance of warm, sunny days; a dry, bracing air; freedom from malaria; and comparative immunity from fogs and frosts. During the months from November to April inclusive, which constitute the season for Northern visitors, rain falls upon the average but forty-one days, whereas the number of rainy days during the same period at Pau is fifty, at Palermo fifty-eight, at Madeira sixty-two, and at Rome sixty-five; Nice and Mentone show a smaller number, namely, thirty-one and thirty-eight respectively. The temperature of Aiken bears a close resemblance to the principal health stations of Southern Europe. The mean temperature of the three months November, December, and January is 48.53° F., or one and a half degrees lower than Nice, Cannes, and Mentone (50°), and six and a half degrees higher than Pau (42°). The months of February, March, and

<sup>1</sup> Aiken as a Health Station. By W. H. Geddings, M. D. Charleston, S. C. 1877. 8vo, pp. 31.

April give a mean temperature of 55° F., which corresponds exactly with that of Nice for the same period, and is three degrees higher than that of Mentone. As regards equability it is shown by the reports of the signal officers that the mean diurnal variation in the temperature is less than that of any other health resort of importance in the United States with the exception of San Diego. In this respect, however, it must be admitted that the sanatoria of Europe possess an advantage. The distinguishing feature of the American climate, taken as a whole, as compared with that of Europe is its *changeability*, manifested in the irregular disturbances and variations that occur in the temperature, winds, humidity, quantity of rain, and cloudiness; and in Aiken abrupt transitions from heat to cold, and *vice versâ*, are not unfrequent during the winter months, which, if not guarded against, are apt to prove serious sources of danger to the invalid. During January and the greater part of February there are occasional days when the thermometer falls below freezing-point. Once or twice each year a slight flurry of snow may be seen, the flakes melting as they fall; and once in five or six years the ground may be whitened with snow for a day or two. The contingency of the prevalence of cold weather is amply provided for, however, within the houses, and I was particularly pleased with the appearance of the generous open fire-places everywhere met with, flanked by piles of oak and pine logs; stoves when used at all being very properly consigned to the halls.

Aiken is charmingly situated upon the brow of a hill elevated about six hundred feet above the sea, overlooking immense evergreen pine forests, and distant but seventeen miles from Augusta, Georgia. The soil is a loose, coarse sand, white and clean on the surface, but mixed with clay, and of a variegated hue in the lower strata. Where the railroad penetrates the hill the lower strata of clay and sand have such a uniform deep-red hue that the sides of the cutting bear every appearance of having been recently painted. It will thus be evident that nothing could insure more perfect drainage than this elevated situation combined with a most porous soil. The sandy soil serves, moreover, to absorb rapidly the rainfall as well as atmospheric moisture, and thus contributes to render the air dry. The dense forests that surround the town furnish attractive drive-ways, and, what is of greater importance, they exercise a considerable influence upon the climate, affording protection against the strong winds of winter, increasing the amount of rainfall, and mitigating the intense heat during the summer. I was also impressed by the resinous or balsamic odors with which the atmosphere was constantly impregnated by the neighboring pines, resembling, it is said, the peculiar odor that prevails at Bournemouth, England, and the Isle of Pines, lying south of Cuba. It was thought by several invalids whom I met that the odors thus exhaled exercised a favorable



influence in certain disorders of the air passages. It is possible, moreover, that these adjacent forests, by giving out large quantities of oxygen from their leaves, tend to neutralize any miasmatic effluvia approaching from the insalubrious lowlands, and thus afford an insurmountable barrier to the malarious diseases prevalent along the coast. The elevated situation of the place also plays, doubtless, a part in freeing the air from those organic particles which are supposed to promote putrefactive changes, and in thus rendering it clear, pure, and hence *antiseptic*. Aiken may be classed, then, with Mentone, Nice, Pau, and Madeira among the dry, tonic climates, which produce a bracing, exhilarating effect upon the body, stimulating the functions of the animal economy, favoring the pulmonary and cutaneous exhalations, and tending to deplete the internal organs. It will be understood, therefore, that the therapeutic effect of the air of Aiken would be quite the opposite of that produced by the atonic or relaxing climates such as prevail in most parts of Florida, Cuba, the Bahamas, and Bermudas, the atmosphere of these latter localities being characterized by the habitual presence of a large amount of moisture combined with a high temperature, which tends to produce a feeling of bodily lassitude and mental depression, and has the effect, especially in certain lung affections, of aggravating internal congestion and inflammation.

Dr. Geddings admits that the drawback of the climate, as compared with the Mediterranean resorts, consists in its variability, but contends that this disadvantage is counterbalanced by its greater dryness and the larger extent of country presented to the invalid for walks and drives. For a list of the various disorders for which the air of Aiken is especially commended the reader is referred to the interesting work itself. It may be briefly stated, however, that this climate is particularly indicated in all diseases characterized by anæmia or an impoverished blood, or by a deranged digestion; in bronchitis, where there is a fair amount of secretion; and, finally, in the early stages of pulmonary consumption in its various forms, excepting acute tuberculosis and laryngeal phthisis. There exists another large class for which this tonic air is peculiarly appropriate. It includes those who are making slow or imperfect recoveries after fevers, or who, suffering from no special ailment, require a change of air and relaxation from the cares and anxieties of business life. With this class of patients the natural tendency to spontaneous cure is favored by exposure to a bright sun and cloudless sky in a mild temperature, but is checked, on the other hand, by prolonged confinement in the insalubrious air of furnace-heated apartments, still more contaminated by the impure emanations inseparable from our large cities. It is quite true that with such invalids a radical change of climate is not indispensable, and the principal advantage gained by a transition from a cold and damp region to a warm and dry one is attrib-

utable to the fact that they are enabled to enjoy daily exercise in the open air without incurring the risk of taking colds; whereas, remaining at home, they would be deprived of proper exercise, confined to a large extent within doors, and exposed to manifold depressing conditions, such as tend to produce indigestion, fatty degeneration of the muscular tissue, and hypochondriasis.

Aiken is contra-indicated, according to Dr. Geddings, in laryngeal consumption<sup>1</sup> and laryngitis on account of the dryness of the air, and for the same reason is inappropriate in bronchitis when attended with an irritable cough, with scanty, viscid expectoration. There are, moreover, certain diseases of the nervous system, characterized by excitability and irritability, not associated with much debility, where an atonic or sedative climate would undoubtedly prove more beneficial; and the same remark applies in that class of illnesses occurring more frequently to those in advanced years, where an enfeebled circulation fails to supply the requisite animal heat.

As a general rule, all visible indications of the damage inflicted upon any territory by warfare quickly disappear, but the greater part of South Carolina continues to this day to present a forcible picture of some of the results of our late civil strife, and the discreditable misgovernment with which it was supplemented. Deserted plantations, blackened ruins of farm-houses, dilapidated buildings, and prostrate fences all bear witness to the impoverishment of the people; and even in Charleston the same stagnant condition of affairs prevailed. In that city I observed that some of the oldest streets were quite destitute of pavement, and upon inquiry learned that the pavement formerly existing had been removed in the first year of the war, and employed in strengthening some of the defenses about the harbor; and the broad swath cut across the business portion of the city by the great fire of 1862 still retains its original outlines, almost no attempt having been made to restore the buildings then destroyed. Unlike the greater part of the State, however, Aiken presents an appearance of comparative thrift and prosperity. A unique feature of the town, and one which in the future must contribute to its sanitary advantages, is the magnificent scale upon which its streets are laid out, the width of the principal thoroughfares being one hundred and fifty feet, while the avenue upon which the principal hotel is situated has a uniform width of two hundred feet.

It is now generally conceded that in the treatment of certain diseases, notably in pulmonary complaints, asthma, whooping-cough, intermittent fever, and diseases characterized by dyspepsia, no more beneficial

<sup>1</sup> In a critical notice of the work of Dr. Geddings, contained in a recent number of the *Medical Record*, the erroneous statement is made that the air of Aiken is inappropriate for all consumptives, as well as for all diseases of the nervous system.



results can be obtained than those derived from a judicious change of climate; and yet the invalid should be made to understand that no climate either in the United States or Europe possesses all the physical qualities that could be desired. The winter and spring climate of Aiken, though greatly superior to that of our Northern cities, is by no means perfect, and the invalid, while seeking to avail himself of the health-giving influences afforded by the special advantages there offered, must at the same time be constantly on guard to eschew its disadvantages. Of the various sources of danger, the most prominent is that arising from exposure during one of the sudden transitions from heat to cold, which are not unfrequently encountered. It may not be superfluous, moreover, to warn the physician that diseases in all stages are not amenable to a change of climate. The serious error is too often made of sending away patients suffering from advanced organic disease attended, perhaps, with extreme physical weakness, and in no condition to sustain the fatigue inseparable from a long journey. In such cases an acute fever is produced by the inevitable exposure incident to traveling, and possibly some new inflammatory affection is developed, all of which more than neutralizes any benefit that could be derived from a residence in even the most appropriate climate.

Of Aiken it may be said, in conclusion, that its tonic, bracing climate differs in no essential particular from that of the health resorts of the Northern Mediterranean. The locality cannot fail in the future to enjoy a hygienic preëminence, for, while it indeed offers fewer sources of attraction than the foreign sanatoria, it is, on the other hand, much more accessible, and the comparatively low price at which a season can be spent there places its remedial advantages within the means of many whose moderate circumstances would preclude the idea of a foreign trip.



## A CASE OF HYDROPHOBIA.

BY C. M. JONES, M. D.

Mrs. L. W. was a healthy woman of thirty-five. She had complained at times of palpitation, and had had occasional hysterical attacks, sometimes violent. On the 31st of last July, a black and tan terrier belonging to her had been irritated by children until he finally bit one of them. She was whipping him for this offense, when he seized the second finger of the right hand so tightly that force was required to break his hold. He was turned into the street, and two other children were bitten before he was killed. He was not at any time supposed to be mad. Two of the four had their wounds canterized immediately. Mrs. W. and the remaining one, who was bitten in the face, had nothing done. Subsequently she appeared cheerful, though her mother thinks

that she was really nervous and apprehensive. She continued well till September 28th, when she complained of headache, which was of short duration; September 29th, she had intermitting chilly sensations, and a pain, rheumatic in character, most severe in the region of the right shoulder, whence it extended down the arm to the hand, and down the right thorax, not following the lines of any particular nerves. There was also pain in the region of the heart, for which a sinapism was applied. September 30th, the pain was less severe, and before night had entirely disappeared; she became, however, uneasy and nervous. She began to draw two or three quick, panting respirations at intervals. She took only some light food, towards night had some aversion to taking liquids, and was so much worried that she sought medical advice.

I was first called in the forenoon of October 1st. The patient was in bed, nervous, restless, much depressed, alternately sitting up and lying down, or turning from one side to the other. She was free from pain, complaining of palpitation. No nausea nor vomiting. Menstruating since yesterday. Bowels constipated. Every few minutes she drew the quick inspirations said to have begun yesterday, caused apparently by spasmodic action of the diaphragm. The breathing in the intervals was natural. When offered a spoonful of milk she took the spoon with averted face, hesitated a moment, carried it suddenly to her mouth, swallowed hurriedly, and threw the spoon from her. Generally, but not invariably, the spasmodic respirations followed the effort. There was nothing noticeable about the cicatrix. Face gloomy, not flushed. The temperature was normal to the touch. Tongue clean. Nothing unusual in throat. Pulse 75, natural. Nothing abnormal in lungs or heart. Bromide of potassium was ordered in frequent doses, and a laxative pill.

At six and ten P. M., her condition was essentially unchanged, though she expressed herself as feeling easier. She had taken the medicine regularly without difficulty, also a few spoonfuls of milk. She said she swallowed easier if pressure were made on her chest front and back, but the difference was not obvious on experiment. She continued to complain of palpitation. The vesicles described by Marochetti were not present. There was no sense of constriction or of a band about the neck or chest. Morphia was administered subcutaneously.

October 2d she was much worse. She had slept none. Had been very restless, sometimes getting up and walking the floor. Had sucked ice and taken a little lemon juice, otherwise nothing except the bromide. The frequent spasmodic respirations continued, and the intermediate respiration was faster. She appeared excited, gloomy, and anxious, but was rational. The face was much flushed. Pulse hard and irregular, about 100. Action of the heart tumultuous. She was not dis-



turbed by sight or sound of water, or by fanning. There had been thus far no convulsions nor real difficulty in swallowing a spoonful at a time. I ordered a mixture of bromide of potassium, chloral, and morphia, to be taken every hour till my return.

Towards noon, when about to take a dose of the medicine, she went into violent convulsions. When I arrived Drs. Page and Booth were already in attendance. She had been sitting with her feet in mustard water, with which she was rubbing her hands. She struggled somewhat, and required restraint. For a short time she had frequent clonic convulsions, some frothing at the mouth, and once or twice raised a little bloody fluid. Her face was livid, perspiration profuse, pupils large. She had an agitated, frightened look. She was quieted for a time by morphia subcutaneously. The previous peculiarities of respiration had disappeared. Fanning at this time disturbed her, though it did not cause convulsions. She was not affected by strong light. The clonic convulsive movements soon recurred at short intervals. If sitting on the bedside she would beat the floor rapidly with her feet, or the foot of the bed if lying down. Now and then she threw herself violently from side to side. Passed urine involuntarily. Heart very tumultuous, from 120 to 130. The pupils reacted, though appearing somewhat dilated. She became very delirious after the first convulsions, with only momentary lucid intervals. She talked rapidly, wildly, profanely, and indecently; said she would harm no one; ate a lozenge with apparent relish. There were no tonic spasms, impeded respiration, flow of saliva, nor spitting.

Against my advice she was removed to the City Hospital, where she was in charge of Messrs. Leland and Sheldon. She continued raving, and as she did not remain in bed the camisole was applied. She threw up several times, without retching, large quantities of a brown, slimy fluid. There was considerable saliva about the mouth, and she swallowed frequently, as one talking rapidly. A dose of bromide, which she refused, was put into her mouth, and she swallowed two or three times when her chin was drawn down. The muscles of her neck became rigid, her face was blue, and there was well-marked laryngeal spasm. The spasm having remitted, she gasped two or three times, and died about three quarters of an hour after entrance. Her mouth filled immediately with foam, which protruded from between her lips.

Throughout the whole of October 1st, the first day of my attendance, there was nothing in her condition, considered apart from the history, to excite alarm. Hysteria would have explained it all, but the history made hydrophobia the probable diagnosis, and the condition the next day and the speedy death afforded ample confirmation.

*Autopsy.* The autopsy was made by Dr. F. W. Draper sixteen hours after death. Rigor mortis unusually marked. Fingers rigidly

flexed, but not clenched. Face uniformly livid. Deep post-mortem staining (suggillation) over the entire posterior aspect of the body. Teeth closely joined. Frothy fluid escaped from the nostrils. Vessels of meninges of brain distinctly filled, but not distended with blood. Substance of brain apparently normal in its gross appearances. A drachm of clear fluid in each lateral ventricle.

Lungs healthy. Heart normal in size and in the firmness of its muscular wall. Right ventricle filled but not distended with mingled fluid and dark, clotted blood. Left ventricle contracted and nearly empty. Valves normal. The stomach contained about six ounces of a greenish-brown fluid of the consistency and nearly the color of pea soup. On the posterior wall at the cardiac end was a patch of finely disseminated points of ecchymosis about two inches in diameter. The spleen, kidneys, liver, and intestines presented nothing abnormal. The ovaries were small and shriveled in appearance. The uterus showed a small fibroid of the size of a filbert, projecting externally from the fundus. The lining membrane of the uterus was everywhere covered with a dirty-pinkish, semi-fluid material, which, being removed, left the mucous coat of normal appearance. The larynx showed nothing to indicate disease or mechanical obstruction within its cavity.

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## HYDROPHOBIA.

BY J. P. MAYNARD, M. D., DEDHAM.

THE apparently increasing frequency of this frightful and inevitably fatal disease ought to arouse the attention of the public to the urgent necessity of adopting such energetic means and effective measures as shall absolutely prevent all liability to its occurrence. It is hardly credible that at a public hearing, not long since, an individual could have shown such ignorance of medical science as to express a doubt of the existence of any such disease. In view of the possibility of such an absurd statement influencing the opinion of others who have no means of proper information, it becomes of the first importance that reliable statistics should be collected by all members of the profession reporting any authenticated cases that may fall under their observation.

For this purpose I will refer to the fact that the first case that came under my care was twenty years ago. The report was published at the time in the *Boston Medical and Surgical Journal*, October 15, 1857.

The second case, which I briefly condense, occurred in August, 1877. Mr. P. L., who had been bitten by a dog about six weeks previously, had been troubled for some two days with vague symptoms of distress: anorexia, lassitude, and lack of sleep, subsequently accompanied by difficulty of deglutition and slight spasmodic contractions of the throat.



Inspection of the fauces revealed neither swelling, redness, nor any morbid condition to explain the dysphagia which he exerted his utmost to overcome. The spasmodic action hourly increased in severity, with some flow of saliva from the mouth. The following morning there was an aggravation of all the symptoms. The saliva became more profuse, more tenacious and adherent to the mouth; the delirium was more pronounced, though readily checked when the patient was suddenly or loudly addressed. On the evening of the fourth day from the first apparent illness the pulse became extremely rapid, and, with the altered tone and hoarseness of voice, indicated the near approach of death, which took place the same night. The combination of all the symptoms was unmistakably pathognomic of this painful as well as inevitably fatal disease.

All unnecessary detail has been avoided in the report of this case, as in the incipency, progress, and full development of the disease it was a perfect counterpart of the case reported and published in 1857, to which reference has already been made.

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## RECENT PROGRESS IN THE TREATMENT OF THORACIC DISEASES.<sup>1</sup>

BY F. I. KNIGHT, M. D.

*On the Position and Mechanism of the Hæmic Murmur.* — Dr. Balfour<sup>2</sup> gives an extended *résumé* of the various theories which have been held in regard to this murmur, and then his own idea about it. He says that inorganic cardiac murmurs have been classified by authors under two heads, — hæmic and dynamic. Hæmic murmurs have been regarded by all authorities as systolic in their rhythm, and by most as basic in position, and as produced by the passage of abnormal blood through a perfectly normal heart after a fashion which has been variously explained. Dynamic murmurs, on the other hand, though also systolic in their rhythm, yet have their position at the apex, are regurgitant in character, and are supposed to be produced by perturbed or defective action of the cardiac muscle itself, independently of any abnormality of the blood, which, however, probably always coexists.

Chlorosis, with the chlorotic cardiac murmur, is the typical example of the one class; chorea, with the apex murmur that so often accompanies it, the typical example of the other class. In the one set of cases the blood lesion is primary and paramount; in the other set the blood lesion is essentially secondary, though not always actually so, and it forms but one link in the chain of consecutive causes of the morbid phenomena. The essential lesion of the blood in both of these classes

<sup>1</sup> Concluded from page 212.

<sup>2</sup> London Lancet, September 15, 1877.

is deficiency in its nutritive qualities; and, in the latter class, we have superadded the exhaustion consequent upon almost incessant muscular action, or upon coexistent or preëxistent febrile disorder. This state of matters produces an enfeebled, relaxed, and flabby condition of the muscles, which, of course, is not confined to the external muscles, but extends also to the hollow internal muscles, which suffer proportionately to the work they have to do. In these conditions the heart necessarily participates, and we are not therefore surprised to learn that in fevers it sometimes becomes as limp as a piece of wet paper (Stokes, quoted from Louis), nor that in serious cases of chlorosis it is found to be considerably dilated (Bamberger, Friedreich, Wunderlich, Stark, etc.). Beau, in 1856, associated fevers of various kinds with chlorosis and other forms of hydræmia as causes of dilatation of the heart, pointing out that it was rational to attribute this dilatation to that peculiar alteration of the blood which is common to all these different forms of disease. Dilatation of the heart is, as was first pointed out by Stokes, and subsequently by Gairdner, and Bristowe, a very frequent cause of apex systolic murmur. Stark has shown that the dilatation of chlorosis may cause relative inadequacy of both auriculo-ventricular valves, while Parrot has given it as his opinion that the true hæmic murmur is always a murmur of tricuspid regurgitation. The chlorotic or typical hæmic murmur is thus shown to be invariably accompanied by a condition of heart which may give rise to a dynamic apex murmur; while, in the opinion of some, the so-called hæmic murmur is always of this character. The murmur of chorea originates in the same way as that of chlorosis and the eruptive and other fevers, namely, in the relative inadequacy of the auriculo-ventricular valves, the result of dilatation of the ventricles consequent on parietal debility.

How is it that the hæmic murmur of chlorosis becomes, in its later stages, an apex murmur of regurgitation, after having been in its earlier stage a basic murmur—apparently of obstruction? To this query Dr. Balfour thinks there is but one reply, and that is that at all times the murmur is due to ventricular dilatation, and the changes in its position of maximum intensity depend upon alterations in the heart itself. The left ventricle suffers first and most in chlorosis (Stokes and others).

From these preliminary explanations it is obvious that in chlorosis we may have a murmur at all the four cardiac orifices; but most observers will agree with Hayden that its most ordinary position is the base of the heart, and that it has no “definite line of propagation, as is the case with organic murmurs in this situation.” This absence of any distinct line of propagation up the aorta, innominate, and carotid of course at once renders untenable the classic hypothesis of Hope, Bellingham, Potain, and others, who hold that the cardiac hæmic murmur is always aortic in its origin. Marshall Hughes, feeling the force



of this objection, was, Balfour believes, the first to suggest the orifice of the pulmonary artery as the source of the murmur, forgetting that under ordinary conditions any purely hæmic intracardiac cause of murmur must act at least as forcibly at the aortic orifice as at the pulmonary. And Marey did not improve matters by suggesting that the basic murmur was due to the formation of fluid veins at the aortic orifice, by the lowering of the tension within the aorta itself, because most observers are agreed that the murmur is at least as loud at the pulmonary orifice as at the aortic, while the accentuated pulmonary second sound indicates an increase of tension within that artery, a condition also proved to exist by the gradual development of dilatation of the right ventricle. The basic position of the chlorotic murmur in its early stage of course excludes Parrot's supposition of its being always tricuspid in its origin.

Skoda mentions that in cases of dilatation and hypertrophy of the right ventricle, dependent upon incompetence of the mitral valve, a systolic murmur is often audible in the pulmonary artery; this, he adds, is "perhaps" dependent upon softening of the internal coat of the dilated artery. This murmur has long since been recognized as of no infrequent occurrence in mitral regurgitation. Skoda's idea as to the causation of this murmur was not long maintained; it was not difficult to show that the internal coat of the pulmonary artery in these cases was not softened, and that its condition when this murmur had been present did not differ from that in those other cases where this murmur had been absent. Meyer endeavored to show that this murmur was produced by the propagation of the vibrations of the mitral valve to the wall of the pulmonary artery. But it is difficult to see why these vibrations should not be propagated to the aorta rather than to the pulmonary artery, which belongs to the other side of the heart. Bamberger supposed this systolic murmur, audible in the pulmonary area in cases of mitral regurgitation, to be due to an abnormal relaxation of the coats of the pulmonary artery. Naunyn appears to have distinctly made out that the position of maximum intensity of the murmur in these cases is not over the pulmonary area at all, but one or two inches to the left of it, and in the same plane, just where anatomy teaches us that the appendix of the left auricle comes up from behind. Naunyn therefore regards this murmur as propagated to the chest wall from the left auricular appendix, and he supposes the vibrations which constitute the murmur to be conveyed to the auricular wall by the fluid veins formed by the regurgitating blood at the auriculo-ventricular openings, which carry with them the vibrations originating at that orifice to the auricular wall upon which they impinge. Gerhardt, Paul Niemeyer, and Balfour accept this explanation of Naunyn. Although Naunyn has not specially referred to the chlorotic murmur as originating in this way, Balfour thinks it is not difficult to show that the history of the

development of this murmur, as well as its primary position of maximum intensity, fully confirm this theory of its causation. It is a difficult matter to explain why a murmur of regurgitation, which always originates at the auriculo-ventricular opening, should be at one time audible at the apex and at another at the base. But some approximation, at least, to an explanation may be attained if we consider that sounds are only audible vibrations, that in fluids these vibrations originate only at some part where the stream is constricted, and are not only communicated to the constricting walls at the point of origin, but are also carried with the fluid veins and transferred by them to any solid upon which they may impinge. In these circumstances it is obvious that a murmur of mitral regurgitation may be audible either at the apex or the base, according to the relative readiness with which its vibrations are transferred to the chest wall in either situation. If the vibrations are powerful they are readily propagated to the ventricle, and make their appearance as a distinct murmur at the left apex, which under most circumstances of mitral regurgitation comes more directly in contact with the chest wall than the auricle, — at first, at all events, — and it long continues to do so, because the cardiac muscle in these cases being fairly firm, consecutive dilatation is only very gradually developed. It is quite otherwise in chlorosis. In this disease residual dilatation is the essential lesion of the heart, and the murmur becomes developed only as a late result. By this time the left auricle, which very early commences to dilate, has become so enlarged that the appendix is frequently visible as a pulsating tumor between the second and third ribs on the left side, while the left apex is gone, separated from the chest wall by the dilated right ventricle lying in front. How trifling a dilatation of the right ventricle is sufficient to produce this displacement of the left apex, even in the normal state of the heart, may be readily ascertained by any one who places his hand over the ventricular area and holds his breath. In a very few seconds the left apex will be found completely to disappear, and that without any perceptible development of the impulse of the right ventricle. So it is in chlorosis; the right ventricle speedily becomes sufficiently dilated to displace the apex beat without its own impulse being developed in any marked manner, though that ultimately follows in due course. By this time, or soon after, the left ventricle is so dilated that during its systole the edges of the mitral valve are unable to meet, and regurgitation results. The fluid veins thus formed are of low tension, vibrations originating at the auriculo-ventricular orifice have little force, so that they are propagated but feebly to the wall of the left ventricle, which, in its turn, from its deep-lying position, transmits them with difficulty to the chest wall, where they become audible only as an impure first sound. On the other hand, these vibrations readily pass with the fluid veins to the wall of the left auricle, on which they impinge, and



the auricular wall being already somewhat tense from unusual dilatation, and being, also from the same cause, in more than usually close apposition to the chest wall, these vibrations are readily transmitted to it, and become audible as a soft murmur in the area of the auricular appendix, around which it is propagated to an extent commensurate with its own loudness and the resonance of the chest wall.

By and by, however, without there having been any disappearance or diminution of the basic murmur, the impure first sound at the apex becomes changed into a loud blowing murmur. This may occur in two ways: first, the dilatation and subsequent hypertrophy of the left ventricle may be so increased that the vibrations originating at the auriculo-ventricular orifice become forcible enough to become transmitted to the chest wall in the region of the apex; or, second, the right side may become so dilated that its apex occupies the normal site of the left apex, and a tricuspid may thus be mistaken for a mitral murmur. Both kinds of cases may be met with, and require to be differentiated one from the other.

The author admits that cases occasionally do occur in which we have — besides the auricular or other murmur which may be present — a distinct systolic murmur originating in the aorta, and probably the same thing may occur in the pulmonary artery.

The sequence of the cardiac phenomena in chlorosis, Balfour says, is entirely in accordance with the pathological view just propounded. We have first spanæmia, shown by the venous hum; then accentuation of the pulmonic second sound, indicating delay of the blood, resulting from residual dilatation; this is speedily followed by a systolic murmur in the auricular area, an inch or two to the left of the pulmonary area, and in the same plane where a distinct pulsation is usually to be felt and seen. This murmur is most readily propagated to the right from the resonant property of the sternum. With this murmur there is always associated an impure first sound in the mitral area, and in many cases this gradually passes into a systolic murmur. When the chlorosis is cured the signs disappear in a reverse order. This murmur may be heard in chlorosis, chorea, all the exanthematic and other fevers, in syphilis, in all conditions of spanæmia and exhaustion. It is the earliest detectable sign of dilatation.

*Auricular Impulse.* — Dr. G. A. Gibson publishes tracings of the auricular impulse in one case,<sup>1</sup> and also a paper<sup>2</sup> which is intended as a sequel to the one of Dr. Balfour on the hæmic murmur; his object is to illustrate by cardiographic tracings certain cases in which an impulse was observed over the situation of the left auricle, namely, in the second

<sup>1</sup> Lancet, September 22, 1877.

<sup>2</sup> Edinburgh Medical Journal, October, 1877; London Medical Record, January 15, 1878.

left intercostal space. His chief inference is that in no inconsiderable number of cases of heart disease the wave of regurgitation into the auricle, allowed by the incompetency of the mitral valve, is of such magnitude as to give both tactile and instrumental manifestations of its presence. His first tracing shows a simple systolic wave caused by the distention of the left auricle on regurgitation through the mitral orifice. It was developed during an attack of acute rheumatism, and was attended by a systolic bellows murmur over the mitral and tricuspid areas. In his second case there was an auricular pulsation in the second interspace, which followed "in order of sequence" a loud and blowing systolic murmur heard over the mitral and tricuspid areas. This case he regards as one of auricular dilatation from loss of blood. In his third case he refers the pulsation in the second left interspace to dilatation of the auricle, a sequel to vascular obstruction caused by general arterial atherosclerosis. A harsh systolic murmur was heard over the whole præcordia, but was loudest over the seat of the auricular impulse. [We should think that the pulsation of the pulmonary artery, which normally lies in the second left interspace next the sternum, and which abnormally might be felt considerably farther out, would be, in many cases at least, eliminated with difficulty. — REP.]

*Climate in Tuberculosis.* — Thaon,<sup>1</sup> who, being from Nice, will perhaps be considered a prejudiced observer, says that the value of a residence on the shores of the Mediterranean is established by a century's experience renewed every winter, whilst the claim for high altitudes, though worthy of attention, is recent, and not yet sufficiently established by statistics. He states the indications and contra-indications for the two climates so different from another as follows: (1.) The climate of the Mediterranean acts as a prophylactic in all cases; the high altitude only in patients with general atony, shallow chests, and torpid catarrh of the pulmonary mucous membrane. (2.) The climate of the Mediterranean cures consumptives, or prolongs their lives, and sometimes even checks the rapid course of the disease in the third stage; it suits all constitutions and temperaments, excepting the very excitable, agreeing with those from the torrid, temperate, or frigid zones.

The elevated region is also successful in all stages of phthisis, but patients from hot countries, as South America, must not be allowed to try it. [Thaon does not seem to know what remarkable popularity the valley of Jauja, ten thousand feet above the sea, enjoys with South Americans. — REP.]

The elevated region is not so good for the scrofulous, as the sea air is injurious to the rheumatic, and dangerous to those who have laryngitis, diarrhœa, or disease of the kidneys. The indications for the high re-

<sup>1</sup> Allg. med. Central Zeitung, 97, 1877, from Transactions of the International Medical Congress in Geneva, 1877.



gion are therefore much more limited. (3.) One can get the benefit of both kinds of climate by passing one winter on the Riviera, and the next in a high altitude, or (4) more sensibly by passing the summer in the invigorating mountain air after having spent the winter by the sea.

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## PROCEEDINGS OF THE SPRINGFIELD SOCIETY FOR MEDICAL IMPROVEMENT.

G. S. STEBBINS, M. D., SECRETARY.

JANUARY 22, 1878. Dr. P. LeB. Stickney in the chair.

*Puerperal Fever.* — Dr. A. S. McClean read a paper upon this subject. He said that he approached the subject of "childbed fever" with much the same caution and distrust as that with which he grappled with his first case of labor.

The motto "in time of peace prepare for war" the writer declared to be doubly appropriate for our professional banner. There may be but a single step from the chamber of joy and congratulation into that of gloom and apprehension, for puerperal fever in one or other of its forms may have set its seal upon our patient. The essayist chose to lay aside a perplexing nomenclature and adopt puerperal fever as the generic name, and proceed to the consideration of its malignant type. He gave it as his opinion that the poison which destroyed the woman in childbed and the infant in the cradle was one and the same. Malignancy is the sign that the fatal dose of the poison has entered the blood, it may be of man, woman, or child. Its manifestations may be those of scarlatina, diphtheria, erysipelas, malignant pustule, or typhus fever. The poison has found its affinity. The form of disease it assumes may be regulated by epidemic influences, together with that most curious susceptibility which in some individuals has its nidus ever ready, while in others it finds a nestling place occasionally only. The reader gave it as his opinion that malignancy depended upon the quality of the poison, the amount imbibed by the patient, and her peculiar predisposition. Hospital statistics might be adduced in support of the statement that they are prominent factors of the problem. Under the head of malignant puerperal fever he reported the following case.

I was called to attend Mrs. C. in her second labor, which was natural; child medium size and vigorous; mother not a strong-looking woman, yet there was nothing in the case which caused any apprehension. While waiting I amused myself with the pranks of her two-year-old child, of remarkably healthy appearance. When I called the next day this child was in a convulsion, and in less than twenty-four hours was dead.

On the third day after her confinement the mother manifested symptoms of blood poisoning, characterized by great depression of the vital powers, internal congestions, the functions morbidly changed or suspended, the breasts, uterus, and all of the muscles flabby. Dark, unhealthy-looking blood oozed from her mouth and nostrils; pulse thready; stupor. Death took place on the fourth day after confinement.

Speculation may suggest whether the mother and child were contaminated at the same time and from the same source.

*Simple Peritonitis.* — Somehow or other the peritonæum in puerperal women does not seem inclined to circumscribe inflammation by throwing around it coagulable lymph, but permits it to spread in all directions. The same structure will, in surgical cases, we know, submit to pretty rough treatment without serious consequences. The distended and highly vascular peritonæum grows irritable during the latter months of pregnancy, when, becoming suddenly relaxed and unable to distribute its blood, depraved function sets in, and one spot more susceptible than the rest inflames; then how quick is the conflagration.

What proportion of my cases of puerperal peritonitis imbibed poison enough to have caused such mortality I know not. All that can be said is that they did not exhibit the usual symptoms of malignancy.

The case presented under this head is that of Mrs. S., a stout, healthy-looking woman in her second pregnancy. About a week prior to her confinement she fell on the icy sidewalk, upon her left side. This fact was mentioned incidentally after her labor (which was a natural one), and when she first complained of her side. On the following day she had a severe chill, which was soon followed by acute pain in a spot apparently covered by two fingers in the left hypogastrium.

Vomiting became frequent; the pain at times would dart like lightning from the spot mentioned, radiating over the side of the abdomen; extreme tenderness; mind wandering; tympanites; milk and lochia absent; pulse 130, and death on the fifth day.

*Pelvic Cellulitis.* — Inflammation frequently occurs in and about the uterine appendages, and for the want of a better name I will call it pelvic cellulitis. We know that subperitoneal cellular tissue is very scarce in the uterine region, and it would seem like one of nature's freaks to start inflammation in this tissue and overlook the structures so recently subjected to the wear and tear of pregnancy and childbirth, as well as to the transition back to the non-gravid condition, which for one month at least is full of dangers.

Mrs. S. was confined October 2, 1876. She was large and fleshy, and, as she expressed it, had been a sufferer from "spinal trouble" for many years. She gave birth to a large child after a very easy labor. No excessive flowing took place, as was the case during her previous labor. The uterus contracted well, the lochia ceased in due time, but no milk came. As she did not recover in the usual way I began to search for the cause. Soon my attention was called to her left groin by her complaint of a severe and constant ache, with tenderness. Fever of a subacute grade, accompanied by delirium, continued until the abscess pointed in the groin, and it was not until November 24th that she began to recover, making fifty-four days of anxiety to all concerned.

*Uterine Phlebitis.* — The great majority of cases of metrophlebitis are of traumatic origin, though the disease may manifest itself after a labor during which not the slightest apparent injury has been inflicted upon the womb or neighboring parts. I think we shall find usually upon investigation that the woman has for a long time suffered from uterine disease.

Mrs. T. was always a feeble girl, of rapid growth, tall and slender. All her functions during pregnancy had been languid. The labor, though her first,



was about as indifferent as all the rest of her operations had been. She took no notice of her child ; there was no milk ; the lochia became offensive ; there was tenderness over the womb, with moderate tympanites, great prostration, diarrhœa, and all the usual typhoid symptoms. Death ensued.

Dr. Lambert reported a case of phlebitis attended with chills, great pain in the limb with swelling, suppression of lochia, etc. The limb remained swollen for several weeks, but the patient made a good recovery.

Dr. Lyman, V. S., said he had a great deal of peritonitis, chiefly of the traumatic kind, to contend with in cows. He was taught to treat all such cases strictly upon the antiphlogistic plan, with, however, very fatal results. Since treating them in accordance with the antiseptic theory there had been far less fatality.

Dr. P. LeB. Stickney reported several cases of simple puerperal peritonitis which presented the ordinary array of symptoms, and which terminated favorably.

Dr. G. C. McClean mentioned a case of peritonitis following abortion.

Dr. A. S. McClean reported a case of abortion which a lady produced upon herself with a whalebone. There was great flowing, and several weeks afterwards he was called in haste, as the woman was supposed to be dying. There was great pain and some swelling in the left groin. She persisted in getting up to use the chamber vessel, and when doing so there escaped a half a pint of pus from the bowel, after which the case went on to recovery.

Dr. Stebbins mentioned two cases of peritonitis of the traumatic variety, following abortion. The autopsy in each case revealed perforation of the uterine walls of sufficient size to admit the passage of an ordinary-sized pen-holder.

At the close of the discussion of the paper, Dr. De Beer, of Great Barrington, exhibited his steam atomizer, an apparatus for steam baths and making local applications. The society passed a vote of confidence, recommending Dr. De Beer and indorsing his apparatus as the best for the purposes designed which had yet been brought to the notice of the profession.

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### RADCLIFFE'S PROTEUS.<sup>1</sup>

THIRTY years ago this book might have made a great sensation, but it has come too late. A few weeks ago, when, in reviewing Parker and Bettany on the Skull, we rejoiced that careful study and embryological research had quite displaced the theories of the dreamers of the transcendental school of anatomists, we little thought to meet with a new work in the spirit of past error. Dr. Radcliffe writes well, and the book, moreover, is so evidently a careful production and a conscientious plea for what the author knows is an unpopular cause that one reads it with interest and criticises it with regret ; though no china shop ever opened its door more invitingly to a bull than this book does its pages to a critic. The author's purpose is to show the existence of unity of principle in diversity of manifestation. He treats first of unity of form in plants and animals, then of unity of force. We shall discuss the former part

<sup>1</sup> *Proteus ; or, Unity in Nature.* By CHARLES BLAND RADCLIFFE, M. D. Second Edition. London : Macmillan & Co. 1877.

at greatest length. The author has a great respect for Owen's homologies, and disregards other systems. His comparisons are vague and superficial. We are told that the radius and ulna clearly correspond to the two bones of the leg. But we would ask which bone to which bone, and which arm to which leg? Should the right anterior extremity be paired with the posterior one of the same side, or diagonally? Besides lateral is there antero-posterior homology? If one is going into the subject he has no right to shirk these questions, but Dr. Radcliffe simply says that the fore-arm corresponds to the leg. In other points, however, he is rather more precise. He tells us that the scapular and pelvic arches are of the nature of ribs, and that the limbs are costal processes. We have not much space to give to the chapter on the vertebral column and skull; suffice it to say that not only is the latter said to be made of vertebræ, but the eyes and ears and jaws are appendages related to them "in exactly the same way in which the ordinary limbs are related to the spinal vertebræ," and that in the main point all anatomists who have given serious attention to the subject, with one or two exceptions only, are "perfectly in accord with Oken"! We pass over comparisons between the vertebra and the annellus to consider the animal as a whole, and now we flatter ourselves we can quote a few conundrums that the reader will find rather difficult to answer: "What, it may be asked, is the significance of the ciliary processes of the curtain of the iris? of the pupil? What is the significance of the foramen of Sömmering?"<sup>1</sup> What of the eyelids and eyelashes and eyebrows? What of the lens of the humors?" We, for our part, should give it up at once, but the author kindly helps us out. "What, indeed? Is it that the ball of the eye is subject to the same law as that which obliges the sea-urchin and many other radiate forms to open out at opposite poles, the pupil being the mouth and the foramen of Sömmering the rudiment of the vent? . . . Do the eyelids and eyelashes and eyebrows point to the outer ring or rings of tentacles, which in bryozoic polypes serve to close the orifice by a lid or operculum when the polype is withdrawn within its cell? . . . Does the chief chamber of the eye correspond to the stomachal character of the simple polype, and by implication to the visceral cavity of the higher animals, vertebrate and invertebrate; to cavities, that is to say, between which the very closest connection is easily traceable? . . . Is the polype type, thus revealed in the eye, inherent in every part of the body, appendicular and central? Does the hand of man open out into fingers and clasp upon another body because it remembers its relationship to the polype?" To these and other similar questions the author is inclined to reply in the affirmative.

In discussing the unity of force the author, we think, makes a stronger case; but still the visionary element is unduly prominent. In the chapter on instinct Dr. Radcliffe maintains that we might as well affirm that the heavenly bodies move by a life of their own as to say that the life of an animal exists solely in his body. He asserts that "nothing less will serve than to suppose that the phenomena of instinct are effects of a force which is as general as that of gravity, a force which may comprehend that of gravity, a force on

<sup>1</sup> The foramen of Sömmering is the old name for the transparent centre of the *macula lutea* of the retina.



which that which is vital and that which is physical may find a common centre." In spite of the attractiveness of much of the theorizing and the skill with which the views are presented, we lay the book down with a feeling of regret for the wasted force it represents. T. D.

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### HUTCHINSON'S PLATES OF CLINICAL SURGERY.<sup>1</sup>

THE present number continues the subject of fracture of the skull. We may mention one case given in considerable detail, illustrating the fact that arachnitis over a large portion of one hemisphere may without actual compression induce paralysis of the opposite side, involving the face as well as the extremities. Another case shows the state of the eye in vaso-motor paralysis. An illustration of a compressed brain closes this fasciculus. The case was one of caries followed by a gradual collection of pus within the cranial cavity; as the brain and its membrane were perfectly healthy, opportunity was afforded to study the symptom of compression without injury. Mr. Hutchinson shows a preference occasionally in this series of fasciculi, which have thus far appeared to select unusual cases, presenting certain points of scientific interest, and displays great power of analysis as well as long training in clinical teaching. We shall hope soon to see some topics of more general interest, which the announcement has foreshadowed. These, although perhaps less worthy of his able pen, may prove more valuable to the student. To one interested in nice points in diagnosis the present number will be very readable.

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### THE MASSACHUSETTS BOARD OF SUPERVISORS OF STATISTICS.

THE supervisors of statistics, a board established for one year by the legislature of 1877, consisting of the secretaries of the boards of education, agriculture, charities, and health, of the chief of the bureau of statistics of labor, and of the secretary of the commonwealth as chairman, have just presented their report. The board was directed, —

First, to devise a plan to be reported to the next legislature for securing uniform records in jails, prisons, asylums, and all penal and charitable institutions, that the fullest results from such sources may be realized.

Second, to consider and report to the next general court a bill for securing more accurate and reliable original entries, which form the basis of the registration reports.

Third, to consider and report to the next general court upon the expediency of consolidating under the supervision of one department of statistics the work of all departments, whose custom it is to present statistical matter, so far as it relates to statistics in any form.

No recommendation is at present given in regard to the first point, inasmuch as that has been made a matter of special inquiry by another commission on

<sup>1</sup> *Illustrations of Clinical Surgery, consisting of Plates, etc.* By JONATHAN HUTCHINSON, F. R. C. S. Philadelphia: Lindsay and Blakiston. Fasciculus IX.

the reorganization of the charities of the State, but the subject is an important one, and will be fully considered in the future. The bill proposed for the improvement of the registration of vital statistics is of enough interest to physicians to be given here : —

Section 1. No human body shall be buried or removed from any city or town until a proper certificate has been given by the clerk, or local registrar of statistics, or local board of health, to the undertaker, or sexton, or person performing the burial or removing the body. This certificate shall state that the facts required by chapter twenty-one of the General Statutes have been returned and recorded, and no clerk, or local registrar, or local board of health shall give such certificate or burial permit until the attending physician's certificate of the cause of death has been obtained and placed in the hands of said clerk, or local registrar, or local board of health, *provided*, that, on application, the chairman of the local board of health, or any physician employed by any city or town for such purpose, shall sign such certificate to the best of his knowledge and belief, if there has been no physician in attendance. He shall also sign such certificate, upon application, in case of death by dangerous contagious disease, or in any other event when the certificate of the attending physician cannot, for good and sufficient reasons, be early enough obtained. In case of death by violence the medical examiner attending shall furnish the requisite medical certificate. Any persons violating the provisions of this section shall be punished by a fine not exceeding twenty-five dollars.

Section 2. This act shall take effect on the first day of May, eighteen hundred and seventy-eight, and all acts and parts of acts inconsistent herewith are hereby repealed.

When it is considered that physicians' certificates of causes of death are almost never got even in so large a city as New Bedford, and that such a violation of the spirit of the present law is by no means uncommon throughout the State, it may be seen that the recommendation of the board, for some better means of enforcing the law than the machinery now used, is an essential one. They expect to advise additional improvement, in the future. Indeed, ten successive enactments have been required in England to bring their registration up to the present standard of excellence.

In regard to the final and most important point, that of obtaining an efficient consolidation of statistical service, the continuation of the present board is advised, with the addition of the secretary of the prison commission. The bureau of statistics of labor is to be abolished, the new bureau taking its place. The chief is to receive a salary, the other members to serve without pay. The principal provisions of the bill are that the board shall meet at least once a month, that they may elect associate and advisory members; that the chief shall be appointed by the governor on the nomination of the board; that the bureau shall be the executive office for the collection and tabulation of all general statistical matter of the departments represented by its members; that the members shall have control and charge of the matter collected and of the manner of its presentation, and that local registrars of vital statistics may be appointed by the bureau, when the city or town clerks so serving fail to do their duty in a satisfactory manner.



The report is signed by all of the members except the chairman, who dissents from that portion which provides for the establishment of a bureau of statistics with an executive officer and a sufficient clerical force; he approves of the continuation in office of the present board, under whose advice all statistics should be collected, arranged, and presented to the legislature.

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## THE TREATMENT OF DRUNKENNESS.

THAT many forms of the intemperate use of alcohol are closely allied to insanity is a fact so well established that it need now only be stated; that it is often an acquired disease, and perhaps oftener results from congenital defect, is no less true; while it must be acknowledged that in many cases it is simply a crime. With the last class we need not here trouble ourselves further than to say that the present form and degree of punishment are neither deterrent nor curative. Something more is necessary to check the increase which is going on in this direction over most of the civilized world. With regard to those among whom drunkenness is only one of the many forms indicative of deterioration of stock, mental and physical, we can only take care that they injure society in the least degree practicable; that they bring down with them to poverty and dependence as few others as possible; that they propagate as few of their kind as may be; and that they drop out of the number who are fitted to survive as easily to themselves as they do harmlessly to others.

The strict licensing plan known as the Gothenburg system has had admirable success in reducing the sale of spirits and the amount of drunkenness in Sweden, as is natural; for many drunkards, like other weak people, can, as has been well said, get along pretty well with a little "boosting," and a strict license law, well enforced, gives them just that help which they need. The better police of Glasgow, since destroying several thousand "rookeries" and substituting for them decent lodging-houses, has resulted in an enormous decrease of all kinds of petty crimes, especially of drunkenness. Whipping and deprivation of civil rights have been suggested to meet the necessities of dealing with this class; the latter remedy has already been applied in France.

It is only with the clearly diseased and more hopeful class, however, that we have to do as physicians; and it is exceedingly important that we should discriminate most carefully in selecting those alone for any purely remedial treatment. Otherwise, our new method of cure will soon fall into disrepute. This matter is so important that inebriate asylums have been recommended by the American Medical Association, the American Association of Superintendents of Insane Asylums, the Massachusetts State Board of Health, by many of the first authorities in England, particularly during the parliamentary inquiry of 1872, and by a commission of our fellow citizens, consisting of Rev. Dr. A. A. Miner, Dr. George C. Shattuck, and Dr. John C. Tyler, appointed under ex-Mayor Cobb, whose period of service was conspicuous for intelligent progress in all directions.

Experience in this subject is meagre, is almost exclusively American, and has thus far dealt almost entirely with a class of persons who have a consider-

able degree of self-respect and self-control. In the admirable institution at Boston, Dr. Day estimates his permanent cures at thirty-three per cent.; good results have been obtained in Chicago and Philadelphia also; and in Binghamton, where the state law allows forcible detention of the patients, precisely as in insanity, there has been a large proportion of cures. That there are many relapses and many absolute failures to afford lasting relief must be acknowledged, but not to so large an extent, apparently, as in insanity.

Almost nothing has yet been done for the lower strata of society, who, when convicted of being intoxicated, are sentenced to our penal institutions. Whether their circumstances and surroundings and their own self-control are sufficient to maintain them in a state of sobriety, after having been once cured, must be ascertained by future experiment. But the opinion of many thoughtful and well-qualified persons is to the effect that such a result may be reasonably hoped for. Already a bill to provide for such treatment has been brought before the English Parliament, and it is to be hoped that our country will not be far behindhand in so excellent a movement. The present method of short confinements and fines is almost ridiculously inadequate for accomplishing any good result, while it degrades the prisoner in his own estimation and brings great suffering on his or her family, at the same time that the community is actually spending its money in such a way as to foster inebriety.

The Boston commissioners have done their work with great care and conscientiousness; their report embodies a careful consideration of the whole subject, a minute investigation of all the circumstances of the case, and a ripened experience, which entitle their conclusions to great weight. Their recommendation of asylum-treatment, with forcible detention, abundant employment, and all means calculated to stimulate and maintain self-respect, for the disease drunkenness, should commend itself to the careful attention of our city authorities. We cannot urge too strongly the importance of giving the experiment a fair trial. This is a subject in which the medical profession are properly expected by the community to take the lead; and it is to be hoped that the time will not be long before we can fully test any reasonable and well-matured plan to rid ourselves, even in some degree, of what promises to be, and indeed is, one of the greatest banes of modern civilized life.

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## OUR SEMI-CENTENNIAL ANNIVERSARY.

WE would call the attention of our readers to the fact that the first number of the JOURNAL was published fifty years ago this week, bearing the date February 19, 1828. It may be of interest to note the contents of that number. There are sixteen pages of matter arranged in double column, not including a lithographic plate printed upon a separate sheet which accompanies the leading article, entitled Cases of Neuralgia or Painful Affections of Nerves, by John C. Warren, M. D. The first page is headed with a wood-cut of the Massachusetts General Hospital, which adorns each number of the first volumes. The second article is a letter from Halifax describing the introduction of small-pox into that city, and illustrating the utility of revaccination, written by



Dr. Almon to Dr. Warren. Next follows a Medical Report of the Weather and Prevalent Diseases for the last Three Months, by John Gorham, M. D. A hospital report and a few selections from foreign journals are succeeded by an editorial explaining that this new journal is the offspring of the *New England Journal of Medicine and Surgery* and the *Boston Medical Intelligencer*.<sup>1</sup> There has been no interruption in the weekly issue from that time to this, and although it has passed through many vicissitudes, at one time having a circulation throughout the country, being the sole weekly, and at another nearly dying of inanition, it is now, we are happy to say, in an era of prosperity, for which it is largely indebted to the loyal support of the profession of New England of late years, and more particularly to the timely and valuable aid rendered by those gentlemen who now comprise the board of management, without whose assistance the present anniversary could scarcely have been reached. We hope the good-will of our readers will accompany us into the second half century of our existence.

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#### MEDICAL NOTES.

— The last number of the *Edinburgh Medical and Surgical Journal* pays the following double compliment to the profession of this city. It says at the conclusion of a review: "Altogether, the Boston hospital reports, like the *Boston Medical Journal*, stand very high in the list of analogous productions on either side of the Atlantic."

— Dr. Doering, of the United States marine hospital service, writes to the *Chicago Medical Journal and Examiner* of February a reply to a previous editorial in that journal in which the statement was made that "in the marine and pension services surgeons and assistant surgeons become such by political preferment." He says: "Since the reorganization of the marine hospital service under the able administration of the surgeon-general, Dr. John M. Woodworth, every applicant for appointment has been obliged to undergo a rigid examination by a board of surgeons with reference to his professional and physical qualifications. The examination, which extends over a period of four days, is both written and oral, embracing all the branches of medicine, together with a clinical examination, both medical and surgical, at a hospital. As the examination is strictly competitive, the candidates are appointed according to the highest percentage. No appointment is made to a higher grade than assistant surgeon in the marine hospital service, and all vacancies which occur in the grade of surgeon are filled by promotion of assistant surgeons on the ground of merit and fitness only." We are happy to give publicity to this defense of so admirably conducted a department of the civil service.

— The *Philadelphia Druggist and Chemist*, a new journal, intended to be a connecting link between the physician and druggist, gives the news of the death in Paris of the Count de Kergaredec, who was the first to apply auscultation for the detection of the beat of the foetal heart.

The same journal also announces the death of Caventou, the distinguished French chemist, at the age of eighty-two. To him medicine is indebted for very valuable remedies. In conjunction with other chemists he discovered

strychnia in 1818, brucia and veratria in 1819, quinia and cinchonia in 1820, and caffen and thein in 1821.

— A solution of nitrate or chloride of cobalt or [chloride of copper mixed with a little gum and sugar produces a "magic ink" which is made visible by heat. The above journal suggests that it be called 'postal-card ink.'

— A tempered variety of glass is now being successfully used in Europe in the manufacture of printers' type.

— A death from chloroform was averted in England recently by a prompt administration of the nitrite of amyl. The patient, a female, was nearly gone. All the ordinary remedies had been vainly tried. Nitrite of amyl was then poured upon lint and given by inhalation. In about ten seconds the face flushed, the pulse was again felt, and respiration was restored.

— Dr. Walter Channing, lately of the New York State Asylum for Insane Criminals, has been appointed first assistant physician for the new insane asylum at Danvers.

— Illinois can boast of two state medical directories. One, under the title of the Annual Medical Directory, is published by Dr. F. A. Emmons. A much neater and more useful little book is the Illinois State Medical Register, which appears to be the successor of the Chicago Medical Register and Directory, issued as a private enterprise in 1872 by Dr. T. D. Fitch and Dr. Norman Bridge. The present edition includes the entire State, and has everything of interest relating to the medical profession of Illinois. It is edited by Dr. D. W. Graham. We think these directories, when carefully prepared, of great value. We hope that when each State has perfected its register they may be all combined in one volume.

— The annual report of Surgeon-General W. Grier, of the United States navy, to the secretary of the navy, has lately appeared. He calls attention to the inadequate appropriation for the support of our naval hospitals, which are nowhere so comfortable as hospitals should be, and in many cases are in a very defective condition. The naval fund, which in 1868 amounted to nearly half a million of dollars, has been absorbed, and it will be necessary to make a large annual appropriation, as the receipts of the fund are now so small as to be hardly sufficient to support one of the larger hospitals. Instruction in hygiene, chemical manipulation, and microscopy is thought necessary for assistant surgeons previous to their promotion, and it is suggested that they be ordered to the hospital at New York for this purpose.

— In the *Buffalo Medical and Surgical Journal* we find that the *British and Foreign Medico-Chirurgical Review* says: "We warmly congratulate the profession of the United States on their good fortune in possessing so able a bibliographer as Dr. Billings, who has the intellect to appreciate the importance of a great public medical library, and the enthusiasm and diligence sufficient to overcome the endless difficulties met with in the formation and management of such a collection. Surely his efforts and his great success will have a reflex action on European, especially on English, librarians. Nowhere are there such numerous opportunities for buying rare and curious books and manuscripts as in the London auction rooms, yet no use seems to be made of them by any of the London medical libraries at the present time."



— The twenty-fourth Registration Report of Rhode Island, like those of preceding years, although containing indications that in some places the registration is defective, as is commonly the case in our States, is yet one of our most creditable sanitary documents, and shows to how great a degree skillful compilation and editing may counterbalance defects in the original entries. Dr. Snow concludes from Dr. Caswell's observations, continued during forty-five years, that it may be said in general terms that some diseases are more prevalent and fatal in warm weather, and others in cold weather; but if we go beyond this and endeavor to establish any rule of connection between the mortality from any disease and any special meteorological conditions as recorded, we are at once met with marked exceptions, and perhaps find that they are more numerous than the observances of the rule. Continued heat to an excessive degree is admitted by Dr. Caswell to increase the mortality from diarrhœal diseases, — a fact which Dr. Snow is inclined to consider not proven of heat alone. In 1876, the birth-rate was less than for any other year since 1870, the marriage-rate less than at any time since 1868, and the death-rate the least for five years. In the mortality lists for the three years 1874, 1875, 1876, "consumption" stands always at the head, cholera infantum third; pneumonia and congestion of the lungs fourth in 1874, second in 1875 and 1876; old age fifth in 1874, fourth in 1875 and 1876; diseases of the heart, convulsions, and fits, occupy high places; scarlet fever is second in 1874, sixth in 1875, thirteenth in 1876; typhoid fever stands eighth twice, and seventh once; accidents, ninth each year; croup, twelfth and eleventh; diphtheria is thirteenth in 1874, is not given in the list of the first thirteen causes in 1875, stands seventh in 1876, and has undoubtedly been much more fatal (next to consumption, Dr. Snow thinks) in 1877. Croup and diphtheria are considered together in the report, as usual; not, however, "from any suspicion that the two diseases are identical, but rather for the purpose of showing, by the contrast of the statistics, that they are separate and distinct diseases."

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#### DR. L. P. YANDELL.

MR. EDITOR, — Dr. Lunsford P. Yandell died in Louisville, Ky., February 4th, of acute pneumonia. He was one of the ablest of the medical men of the West. He was born July 5, 1805. He died in the seventy-third year of his age. His father was an eminent physician. He himself studied for a time at Lexington, Ky., and subsequently graduated at Baltimore in 1825. At the age of twenty-three he was chosen professor of chemistry at the Transylvania School of Medicine at Lexington, then the chief school in the Mississippi Valley. Among his colleagues were those eminent men Dudley, Drake, and Caldwell. In 1837 he went to Louisville, and with Cook and Drake founded the University of Louisville. He became one of its active and able supporters. He was a man of varied learning, and his house was resorted to by American and foreign scientific men; Lyell of London, Verneuil of France, and Roemer of Germany were his guests when they visited Louisville. He wrote freely and vigorously, not only on medicine but on other allied sciences. Jointly with Professor Schuman he published a report on the geology of Ken-

tucky. He had collected perhaps the finest private geological cabinet in the State. For some time he was editor of *The Western Medical Journal*. Biography also interested him. At the time of his death he was engaged in preparing a volume containing sketches of the lives of several of the great medical men of Kentucky and the West. In 1857 he removed to Memphis, and took the chair of professor of the theory and practice of medicine in the medical school of that place. In 1863 and 1864 he was pastor of a Congregational church in Memphis. In 1867, resigning these public duties, he returned to Louisville and to the practice of medicine, occasionally also preaching. In 1872 he became president of the College of Physicians and Surgeons, in Louisville, and in 1877 he was unanimously chosen president of the Kentucky State Medical Society. He died while holding this office.

Thus for about fifty years Dr. Yandell has held a most conspicuous position in this country. As a writer on medicine and natural history his career has been most honorable. As a practitioner of medicine he was highly successful and beloved by his patients for his energy, cordiality, and sympathetic manners.

Those Eastern physicians who were at the delightful meeting of the American Medical Association held in Louisville about two years since will well remember his tall, thin frame, his face beaming with intelligence and good humor, and his elastic step. He seemed, in fact, the embodiment of an old man who, reverencing the hopeful dreams of his youth, had thereby kept himself alive and keenly appreciative of the work of the present day. His loss will personally be felt by a wide circle of friends. The doings of the citizens and his medical associates at Louisville at the time of his funeral show the high respect in which he was held by the community in which he lived. B.

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#### LETTER FROM NEW YORK.

MR. EDITOR,—In my last letter I mentioned the fact that the County Medical Society had appointed a new committee, namely, one on ethics. Like all such newly appointed bodies its members wished to demonstrate both the necessity for their appointment and their ability to act, so some one must be found who had violated the code of medical ethics. The *Medical Record*, some weeks ago, in an editorial, criticised the action of certain medical gentlemen because their names appeared in the public papers as recommending the Apollinaris and Hunyadi János mineral waters, as being contrary to the code of ethics and unprofessional; in fact it was advertising and the writer demanded that the County Medical Society should take action thereon. Letters were written to these gentlemen requesting that they would withdraw their names from such recommendations, and intimating that unless it were done the subject would be brought before the society. By some means the above facts got to the ears of a reporter of the *New York Times*, and forthwith two of these gentlemen were interviewed, and the result was a sensational article in the *Times* on a Row in the County Medical Society, etc., in which these two gentlemen are reported as using language at least not very dignified. Not-



withstanding the great indignation of the *Record* at this breach of medical ethics the advertisements with the recommendations still occupied a prominent place in the paper.

At the last meeting of the society a long report was read from the committee on ethics, congratulating the society that these men had withdrawn their names without any action on the part of the society. It seems from the statement of the committee that it was a small matter to make a written report upon, especially as it was said the letters written were not official. The medical profession in New York is to be congratulated that the above was the most flagrant violation of the code which the committee was able to find.

It is within the remembrance of many that some years ago a certain medical gentleman wrote an article, over his initials, in an evening journal having one of the largest circulations as a family paper in the city, on the treatment of diphtheria, and the statement was made that unless a certain medicine was used the case had not been properly treated, and if I am not greatly mistaken this was criticised as a mode of advertising, in the *Record*. It is the general opinion that had these gentlemen refused to withdraw their names the society could not have forced them. The whole affair has been made too much of, and has not added to the credit of the society.

The Board of Health has lately got into court for a seeming want of common care. It appears that some time ago a woman was taken from her home by order of the board, and conveyed to the Small-Pox Hospital, when she only had measles. It appears that no medical examination was held before her removal. She was placed in an open shed, and obliged to remain in the company of small-pox patients. After being conveyed to the Small-Pox Hospital on Blackwell's Island her disease was pronounced to be measles by the physician in charge. She was not allowed to return to her home, but was sent to another hospital. She now brings a suit against the mayor, etc., for ten thousand dollars. In some remarks the court held: . . . "that an act of an unlawful nature was shown to have been perpetrated by the officers and agents of the defendant, and for them and to the extent the plaintiff was injured by them they should be held to be legally liable. It is seldom that so grave a wrong is ever alleged against public agents and officials, and if it exist it should be criminally punished as well as civilly redressed. The public has such an interest in the case as should lead to its vindication for the protection of others who may be in danger of similar abuses of authority."

There has been for some time considerable complaint from physicians in regard to the arbitrary way in which the Board of Health acts, and this is not the only case where it has been open to severe censure. Death certificates are often returned for some fanciful irregularity and often from ignorance on the part of some of the officers. I have known a certificate of death secondary to a glioma to be returned with an inquiry as to what it was.

Dr. Peaslee's death has caused a vacancy in the attending staff of the Woman's Hospital of the State of New York which it will be hard to fill. Already there are plenty of applicants, but as yet the medical board has made no nominations. The chair of gynæcology at Bellevue Hospital Medical Col-

lege, which was created for Dr. Peaslee, will probably be abolished, and its duties be performed by Dr. Lusk, professor of obstetrics.

The commissioners of charities and correction have just completed a maternity hospital on Blackwell's Island. They have placed it about half a mile from Charity Hospital. It consists of two distinct wooden pavilions, one story high, containing two wards each, with twelve beds in a ward, separated by a narrow passage-way with rooms on either side. It was built on a plan proposed by the author of the Boylston Prize Essay on Hospitals, and is about as inconvenient for the attendants as it could be made. The wards are large, airy, and well lighted, ventilated by transoms over each window, and heated by large stoves in the ward. Between the two wards is a small dining-room poorly supplied with water, a pantry, and nurses' room. The kitchen is in the basement of one of the buildings, and is wholly inadequate for the purpose. I understand that the buildings were all ready for occupation when it was discovered that no provision had been made for cooking. A maternity hospital should be provided in the city, as it is, at times, almost impossible to reach the Island in bad weather, and even in pleasant weather it takes considerable time to get to the hospital. Maternity wards in general hospitals have been found to become, sooner or later, infected with puerperal fever, and have had to be moved. Whether it will be possible to prevent its development in the present hospital remains to be seen. It would seem that smaller and more isolated wards would have diminished the danger from that source. I believe that the plan of the building does not meet the views of the attending staff, but this is a secondary consideration in the eyes of the commissioners, who always carry out their own ideas without consulting the attending physicians.

Every two years there usually occurs a vacancy in the quarantine department from the retirement of the medical officer, and as often there is a great scramble for the place. It is the most lucrative position in the gift of the governor of the State. It is said to be worth sixty thousand dollars a year from legitimate fees, and there are plenty of men who are perfectly willing to sacrifice their private practice in order to serve the State on the above terms. At times the position has been abused, and exorbitant fees demanded and received, not to say anything about vessels which have been allowed for a consideration to come up to the city with contagious disease on board. The present incumbent has held the position for four years, and has never had a word said against the manner in which he has fulfilled his duties. He now wishes to resume his private practice, but the governor who nominates and the senate who confirm the nomination do not seem to be of the same mind on this question. Dr. Austin Flint, Jr., has been nominated three times for the position of health officer, and each time he has either been rejected or his name has been withdrawn, the trouble being that the executive is democratic and the senate republican in politics. There is no question as to the ability of the gentleman to fill the position. I suppose that the present incumbent will hold over until the governor and the senate can agree. In the mean time the city does not suffer.



ELECTROLYSIS IN MASSACHUSETTS IN 1806.

MR. EDITOR, — The following brief paper is to be found in the first volume of Medical Communications of the Massachusetts Medical Society (article xi.), and may just now be of sufficient interest to justify its republication.

H. A. M.

A CASE OF SCIRRHOUS TESTIS CURED BY ELECTRICITY. BY MATTHIAS SPAULDING.

TO THE MASSACHUSETTS MEDICAL SOCIETY :

GENTLEMEN, — On the 25th of October, 1806, a farmer called on me with a scirrhus testis, which he told me had been so for two years, and had become so painful that he was obliged to lay aside labor. The diseased testis was at least four times as large as the sound one, and extremely hard. He said that he had been under the care of a surgeon during great part of the above-mentioned time, who called the disease a hydrocele. I told him that it was a scirrhus testicle, and recommended electricity. Two or three shocks were passed through it in different directions. They caused some pain and a considerable degree of heat in the part. Nothing further was done until the 4th of November following, when he told me he was better. No great difference, however, could be perceived in the testis. I repeated the shocks, but made them stronger than before. On the 19th I found it considerably lessened. The shocks were repeated on the 19th, 22d, and 28th of the same month, and on the 9th of December, when the testis was reduced nearly to the size of the other. I heard no more from him until the end of about two months, when he informed me that he was perfectly well, and could perform his usual labor with ease.

AMHERST, August 16, 1807.

COMPARATIVE MORTALITY-RATES.

	Estimated Pop- ulation, July 1, 1878.	Deaths during week ending February 9, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean of ten Years, '63-'77.
New York.	1,093,171	471	22.40	24.32	28.71
Philadelphia.	876,118	305	18.10	18.80	21.54
Brooklyn.	549,438	194	18.36	21.51	25.50
Chicago.	460,000	127	14.36	17.83	22.39
Boston.	375,476	134	18.56	20.10	24.34
Providence.	104,500	24	12.48	18.81	19.20
Lowell.	55,798	19	17.71	19.09	22.50
Worcester.	54,937	15	14.20	21.07	22.30
Cambridge.	53,547	19	18.44	18.69	20.83
Fall River.	53,207	16	15.64	21.35	24.96
Lynn.	35,528	19	27.82	20.42	19.67
Springfield.	33,981	8	12.25	16.04	19.77
Salem.	27,140	12	22.99	20.38	21.15

**SUFFOLK DISTRICT MEDICAL SOCIETY.** — The regular meeting will be held at the rooms, 36 Temple Place, on Saturday evening, February 23d, at seven and a half o'clock. The following papers and cases will be read : —

Dr. F. A. Harris, One Hundred Cases under the New Law of Medical Examiners.

Dr. W. G. Wheeler, Ovarian Tumor treated by Electrolysis.

Dr. D. Hunt, The Early Development of the Eye in its Relations to Myopia. Part I. Development. Illustrated with Micro-Photographs.

Dr. Chadwick will show a new Examining Table.

Dr. Jeffries, Color Blindness and its Incurability.

Dr. J. De Beer will exhibit an apparatus for applying steam, antiseptics, etc.

Tea, etc., at nine o'clock.

**ESSEX SOUTH DISTRICT MEDICAL SOCIETY.** — The next regular meeting will be held at the City Hall, Lynn, March 9, 1878, at three p. m. R. F. DEARBORN, M. D.,

*Secretary.*

A NEW medical society, bearing the name of the Miller's River Medical Society was organized in Athol a few days ago, with the following-named officers : President, Dr. Barton, of Orange ; vice-presidents, Dr. J. P. Lynde, of Athol, and Dr. M. Lindsay, of Dana ; secretary and treasurer, Dr. H. Dean, of Athol. The meetings of the society will be held on the first Saturday of each month.

**BOOKS AND PAMPHLETS RECEIVED.** — Proceedings of the Association of Medical Officers of American Institutions for Idiotic and Feeble-Minded Persons. Philadelphia : J. B. Lippincott & Co. 1877.

Twenty-Fifth Annual Report of the Pennsylvania Training School for Feeble-Minded Children. West Chester, Pa. 1877.

Croton Water. Its Nature, Properties, and Impurities. With Original Microscopical Drawings of the Organic Deposit. By John Michels. New York. 1878.

Reports of the Trustees and Superintendent of the Butler Hospital for the Insane, presented to the Corporation at their Annual Meeting. Providence. 1878.

Address before the Rocky Mountain Medical Association, June 6, 1877. By J. M. Toner, M. D. Washington, D. C. 1877.

Transactions of the Medical Society of the State of New York for the Year 1877. Albany : Van Benthuysen Printing House. 1877.

Essays on the Treatment of Skin Disease. No. II. On the Treatment of Chronic Eczema by a Glycerole of the Subacetate of Lead. Second Edition. By Balmanno Squire, M. B. Lond. (Reprinted from the Medical Times and Gazette.) London : J. & A. Churchill. 1878.

The Annual Medical Directory of Regular Physicians in the State of Illinois for the Year 1878. F. A. Emmons, M. D.

A Study of Nine Hundred and Sixty-Five Cases of Chronic Pulmonary Disease. By F. H. Davis. (Transactions American Medical Association.)

Landmarks, Medical and Surgical. By Luther Holden, F. R. C. S. From the Second English Edition. Philadelphia : Henry C. Lea. 1878. (From A. Williams & Co.)

State Regulation of Vice. Regulation Efforts in America. The Geneva Congress. By Aaron M. Powell. New York : Wood and Holbrook. 1878. (A. Williams & Co.)

Seventh Annual Report of the Board of Trustees of the New York Ear Dispensary. Incorporated April 8, 1871. New York : G. P. Putnam's Sons. 1878.

Report of the Pennsylvania Hospital for the Insane for the Year 1877. By Thomas S. Kirkbride, M. D., Physician-in-Chief and Superintendent. Philadelphia. 1878.

Transactions of the Thirty-Second Annual Meeting of the Ohio State Medical Society, held at Put-in Bay. Cincinnati. 1877.



# THE BOSTON MEDICAL AND SURGICAL JOURNAL.

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## LITHOTRITY BY A SINGLE OPERATION.<sup>1</sup>

BY HENRY J. BIGELOW, M. D.,

*Professor of Surgery in Harvard University; Surgeon of the Massachusetts General Hospital.*

WHEN Sydney Smith asked, "What human plan, device, or invention two hundred and seventy years old does not require reconsideration?" he would no doubt have regarded with favor an occasional reconsideration of the theory and practice of medicine and surgery, — especially in view of the current belief that their traditions have been kept alive and their rules prescribed in part by authority. The surgical literature of lithotomy, both French and English, so long showed the influence of the early specialists that we have hardly now escaped from its exaggerated circumstance and detail. And yet, with attention to a few precise rules, the operation of lithotomy is quite a simple one, — much less difficult, for example, than the dissection of tumors. It is not impossible that convictions in some degree traditionary may prevail in regard to certain points connected with the practice of the more recent art of lithotrity.

Civiale was among the first to inculcate the excessive susceptibility of the bladder under instruments. Later surgeons, perhaps influenced in part by his teaching, have continued to invest the operation of lithotrity with precautions which, though by no means groundless, because under certain conditions both the bladder and the urethra are actively resentful of even slight interference, are nevertheless greater than this operation generally requires. As a rule, there is little difficulty in it. The stone is readily caught and broken into fragments, of which a few are pulverized; a large-eyed catheter is then sometimes introduced; a little sand and a few bits of stone are washed out; after which the patient is kept quiet to discharge the remainder, and await another "sitting." Under favorable circumstances, such an operation, lasting a few minutes, is not only simple, but safe. Yet the fact that it is not always so could not fail to arrest the attention of surgeons. It may happen that during the succeeding night the patient has a chill; not the chill of so-called "urethral fever," which sometimes follows

<sup>1</sup> From the American Journal of the Medical Sciences, Philadelphia, January, 1878. With additions.

the mere passage of a bougie, and which is of little consequence, but one accompanied or followed by other symptoms, such as tenderness in the region of the bladder, a quickened pulse, and the frequent and painful passage of urine. These symptoms may insidiously persist rather than abate. Others may supervene. The surgeon vainly waits for a favorable moment to repeat his operation; it becomes too evident that the patient is seriously ill, and it is quite within the range of possibilities that in the course of days or weeks he may quietly succumb. An autopsy discloses a variety of lesions, — some of them remote or obscure, others of more obvious origin, — and among these, not the least common, an inflamed bladder, upon the floor of which angular fragments and chips of stone are resting. It is then evident that during a certain interval before death the bladder was not in condition for further instrumental interference; and although, in view of the fatal result of delay, lithotomy or active lithotrity, to both of which in cases like this I have resorted, might have been on the whole the least of evils, it is plain that either operation would have furnished in itself an additional cause of serious inflammation.

Such a result might be supposed to point to the necessity of extreme precaution; and it will be justly urged that the purpose of such interference at an unfavorable moment is the removal of the offending fragments as a last resource. But if at the first operation the bladder could have been completely disembarassed of every particle of stone, even with the risk of irritating its lining membrane, we can hardly doubt that the relief would then have been followed by ready repair. In short, it is difficult to avoid the conviction that in an average case damage to the mucous membrane, and quite as great, is as likely to follow the persistent irritation by angular fragments as the protracted use of instruments for the entire removal of a stone, if this result can be accomplished.

It is probable that the injury from the use of instruments has been in some measure confounded with that resulting from the presence of fragments in the bladder. That the average bladder and urethra have no extreme susceptibility is attested by the generally favorable results of lithotrity, and even of catheterism, which are practiced with very varying skill everywhere; also by the singularly innocuous results of laceration of the contracted urethra, by an instrument like that of Voilemier, for example; so, too, by their recovery from the considerable injury inflicted during the extraction of a large and rough stone in lithotomy. The bladder is often also tolerant to an extraordinary degree of the presence even of a mulberry calculus. If we remember that in this case it clasps the stone at every micturition, often with a persistent gripe, the comparative immunity of its tender mucus membrane is quite remarkable. But when sharp fragments are thus embraced, pre-



senting fresh and acute angles, which do not soon become blunted, and to which the bladder is unaccustomed, it is more remarkable that serious consequences are the exception and not the rule in lithotrity. Polished metallic surfaces carefully manipulated can hardly do such damage as the agencies here enumerated.

Gentleness, dexterity, and experience are especially to be valued in lithotrity. It has been well said that no novice should undertake this operation. But the habit of confounding the symptoms resulting from the presence of fragments with those following the use of instruments originally led to precautions in the introduction and manipulation of the latter which were sometimes excessive. Civiale, with an almost unparalleled experience, introduced a small lithotrite with much less pressure than its own weight, and with uniform and great slowness. And yet, in a healthy urethra, it is only at the triangular ligament and beyond it that such extreme care is called for. Civiale, who had no means of evacuating fragments in the bladder, restricted the length of his operation to two or three, or perhaps five minutes. The same solicitude seems to have led Sir Henry Thompson, in his admirable and standard work upon this subject, to assign two minutes as the proper average duration of a sitting, — a period which his exceptional skill has often in his own practice enabled him materially to reduce. I have been gratified to find, however, that since he has availed himself of the advantage of etherization he recognizes the benefit to be derived from somewhat more prolonged manipulation. My own conviction is that it is better to protract the operation indefinitely in point of time, if thus the whole stone can be removed without serious injury to the bladder. I believe that in any case which is as favorable to lithotrity as the average, in these days when stones are detected early, this can be effected; and that if the bladder be completely emptied of detritus, we have as little to apprehend from the fatigue of the organ consequent upon such manipulation as from the alternative of residual fragments and further operations. The duration of the sittings in the cases reported at the end of this paper varied from three quarters of an hour to three hours and three quarters. The bladder can be thus completely and at once evacuated, in a majority of cases. The stone, after crushing, can be removed through the urethra by a tube contrived for the purpose.

But has not this result already been attained by evacuating instruments variously devised and modified? The following quotations from the latest authorities sufficiently answer this question in the negative: —

“ We may here say, without fear of being accused of exaggeration, that evacuating injections practiced after sittings of lithotrity have no apology for their use. *The whole surgical arsenal invented for their performance is absolutely useless. . . . It should be well understood that the best of the evacuating catheters is worthless.*” (Article Lithot-

ritie, by Demarquay et Cousin, in the *Nouveau Dictionnaire de Médecine et de Chirurgie pratique*. Paris, 1875. Pages 693, 694.)

*"The practice of injecting the bladder to wash out detritus is obsolete. . . . This apparatus of Mr. Clover should not be employed, if it be possible to dispense with it, as its use is quite as irritating as lithotrity itself."* (S. D. Gross, *Diseases, etc., of the Urinary Organs*. Philadelphia, 1876. Page 232.)

"Having used it very frequently [Clover's apparatus], I would add that it is necessary to use all such apparatus with extreme gentleness, and *I prefer to do without it, if possible.*" (Sir H. Thompson, *Practical Lithotrity and Lithotomy*. 1871. Page 215.)

*"All these evacuating catheters are little employed. They require frequent and long manœuvres which are not exempt from dangers; besides, they give passage, as a rule, only to dust, or to little fragments of stone, which would have escaped of themselves without inconvenience to the urethra."* (Article *Lithotritie*, by M. Voillemier, *Dictionnaire encyclopédique des Sciences médicales*. 1869. Page 733.)

In short, the "evacuating apparatus" hitherto employed does not evacuate.

It is not a recent contrivance. From the earlier days of lithotrity, the operation of breaking the stone has been followed by the obvious expedient of introducing a large and special catheter, through which water was injected and allowed to escape, bringing away a little sand, with a small fragment or two. This attempt at evacuation was aided by suction. With this object, and before the year 1846, Sir Philip Crampton employed an exhausted glass globe. For the same purpose a syringe has been used, or a rubber enema or hydrocele bottle, with which fluid could be also injected and the bladder washed. By entering the catheter well within the bottle or syringe, fragments were dropped inside the neck, where, lying below the current, they remained when the bottle was again compressed. When this neck was made of glass, by Clover, the fragments became visible, as in Crampton's globe, and to this neat arrangement the accomplished lithotritist, Sir Henry Thompson, refers as Clover's bottle. But neither the previous practice nor the efficiency of evacuation by suction through a tube had been materially advanced. In the mean time the syringe was modified in France by a rack and pinion attached to the piston, so that water could be injected and withdrawn with great force, a procedure not only useless but detrimental to the bladder if it be inflamed and thickened.

Before describing my own instruments it may be well to say a word in regard to the introduction of instruments, especially large ones, into the bladder, — an important subject in this connection.

A syringe facilitates an abundant use of oil in the urethra or within



a tube. Into the normal urethra a straight instrument can be introduced with at least as much accuracy as a curved one. Either may be passed rapidly as far as the triangular ligament, unless the instrument is very large, in which case great care is required not to rupture the mucous membrane. Having reached this point, which implies that there should have been no premature endeavor to turn the instrument, but that it should be passed as far as it will go in the general direction of the anus, the extremity of the instrument depresses the floor of the urethra in front of the ligament. Traction upon the penis next effaces this depression, and adds firmness to the urethral walls; so that if the instrument be withdrawn a little, and at the same time guided by the bony arch above, it can be coaxed without difficulty through the ligament in question, — a natural obstruction which physicians often mistake for a stricture. This obstruction passed, the rest of the canal is short, and corresponds to the axis of the body, to the line of which the instrument is now depressed. Even the enlarged prostate can often be traversed advantageously by a straight instrument. In fact, a prostatic catheter, as is well known, consists essentially of an inch or two of straighter tube added to the extremity of a common catheter, to reach through the unyielding prostate before the hand is depressed and the beak turned up. In passing either a sound, catheter, or lithotrite, the extremity of a straight instrument, and, curiously enough, the convexity of a curved one, is sometimes arrested just at the entrance of the bladder by the firm lower edge of the inner meatus. The fact that water now passes through the inner meatus, thus dilated, or that a stone is felt with the tip of the curved instrument, which has really entered the bladder, may lead the operator into the mistake of supposing that the instrument is fairly in it; and I have known its further entrance, after sliding over this obstacle, to be erroneously explained by assuming the existence of a second or hour-glass cavity in the bladder itself. To obviate this difficulty, and so soon as the triangular ligament is passed, the catheter, if curved, should be pressed through the indurated neck or prostate, in the direction of the axis of the body, by the hand on the perinæum, — a most efficient manœuvre when the prostate is large. If there be doubt the tip should of course be sought and guided in the rectum. After introduction a straight tube or the shaft of a curved one often returns to an angle of about  $45^{\circ}$  with the recumbent body, and, if the patient is not etherized, a feeling of tension may then be relieved by depressing, with the hand upon the pubes, the suspensory ligament of the penis, — an expedient also useful during the passage of the instrument.

My own practice has always been to etherize for lithotrity.

Each operator prefers the position to which he is accustomed, and when the urethra is healthy this is of very little importance. But if

there be stricture or prostatic obstruction a position at the patient's left side enables the operator to hold and direct the instrument to advantage with the right hand, leaving the left hand free to act in the perinæum. After the instrument is introduced, and both hands are required above the pubes, they are most available if the surgeon changes his position and stands upon the patient's right.

It is important by a preliminary injection to ascertain carefully the capacity of the bladder by emptying it and then refilling it slowly with warm water, previously measured, until the water is expelled through the loosely held urethra by the side of the tube. In this way we prevent its over-distention. In the etherized subject a short pipe or nozzle suffices for this purpose. I have for many years employed a common Davidson's syringe. An unetherized patient may for a moment resist this injection through a short tube by contracting the sphincter of the bladder, but this readily yields. Except in a large bladder a distention by eight or ten ounces suffices for breaking the stone. The smaller the injection the more readily, indeed, do fragments fall into the blades of the instrument. But, unfortunately, so also does the mucous membrane. In fact, with too little fluid in the bladder the use of a lithotrite in unpracticed hands is attended with danger; and in a long sitting an injection which will render the walls moderately tense is the only really safe way of keeping the bladder from between the blades. After careful examination of the action of a lithotrite through an opening in the summit of the bladder, I have returned to this opinion which was held by the older writers on this subject. From time to time the diameter of the collapsing bladder should be estimated by carefully opening the blades of the lithotrite, and water should be introduced when necessary; but care should be taken not to injure a contracted bladder by first distending it, and afterwards adding to it the contents of the syringe or aspirating bottle.

A tape or an elastic band wound lightly once or twice around the penis retards the escape of injected water, and yet allows the movements of the tube or lithotrite.

In order to ascertain the maximum calibre of the urethra before introducing a tube, it should be measured by an instrument which will enter more readily than the tube. Such instruments we have in Van Buren's sounds, which are slightly curved at the end, and a little conical. Being made of solid metal, and nickel-plated, they traverse the urethra with singular facility. Otis's sounds also answer admirably for this purpose.

**EVACUATING INSTRUMENT.** (Figure 1.) — The following points are worthy of consideration in connection with any evacuating apparatus. The ten-ounce elastic bulb or bottle supplied with the usual instrument is inadequate to the exhaustion for which it is designed. It will barely sus-



tain, without collapse, a vertical column of water of the length of a catheter. A thick flask fatigues the hand of the operator. The bulb is also an awkward weight on the top of the catheter. These difficulties are obviated by interposing between the catheter and bulb a piece of rubber tube, varying in length as the surgeon may prefer, from six inches to two feet, to relieve the bladder from the force of any movement of the apparatus, and, what is more important, to allow the operator to hold the bulb on a level with the water in the bladder, or considerably below it. The exhaust then acts as a siphon, and readily

draws off the water. The fragments gravitate to the bottom of the bulb, and are there collected in a glass chamber. (See Figure 1, 3, 4.) To prevent the possible return to the bladder of some single fragment while on its way to this receptacle, the rubber tube, if long, may be provided with a small

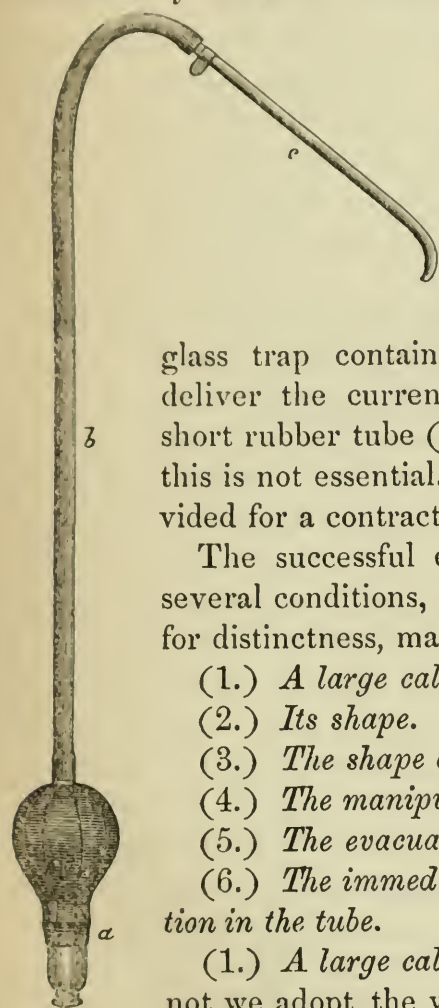
glass trap containing a wire-gauze or perforated tube, to deliver the current and strain it on its return, but with a short rubber tube (Figures 3, 4), which is more convenient; this is not essential. One or two smaller bulbs might be provided for a contracted bladder.

The successful evacuation of the bladder depends upon several conditions, both in the apparatus and its use, which, for distinctness, may be enumerated separately.

- (1.) *A large calibre of the evacuating tube.*
- (2.) *Its shape.*
- (3.) *The shape of its receiving extremity.*
- (4.) *The manipulation of the bulb.*
- (5.) *The evacuation of the fragments.*
- (6.) *The immediate recognition and removal of any obstruction in the tube.*

(1.) *A large calibre of the evacuating tube.* Whether or not we adopt the view of Otis, that the average capacity of

the normal urethra is at about 33 of Charrière, there can be no question that it will admit a much larger tube than that commonly attached to either Clover's or



(FIG. 1.) Evacuating Apparatus.  
a. Elastic bulb and glass receptacle with brass cap, for débris. b. Rubber tube two feet in length. c. Evacuating tube of silver.

the French apparatus. The efficiency of the process of evacuation depends much upon using the largest tube the urethra will admit. This fact has been stated by Sir Henry Thompson. But he recommends for the glass cylinder or trap which is to admit this tube a "perforation at the end, the size of a No. 14 catheter," = 25 Charrière.<sup>1</sup> This perforation

<sup>1</sup> Diseases of the Prostate, 4th edition, 1873, page 337.

is too small; and the tube which is designed to enter it is further reduced by its collar to the diameter of only 12, = 21 Charrière. In fact, this is the calibre of the evacuating catheters now attached to Clover's instrument, and is of itself fatal to their efficiency. An effective tube has a calibre of 28 to 31 or even 32 Charrière, and the meatus, which is the narrowest part, may, if necessary, be slit to admit it, if the urethra is otherwise capacious. Again, in the instrument, as sometimes constructed by Weiss, a joint is made by inserting an upper tube into a lower one, thus obstructing the calibre by a shoulder. The joints should become larger as the tube approaches the bottle, and the tube then delivers without difficulty fragments of its own calibre. Whatever be the size of the evacuating tube, the rubber tube, with its metal attachments, should have a calibre of at least seven sixteenths of an inch, = 31 Charrière.

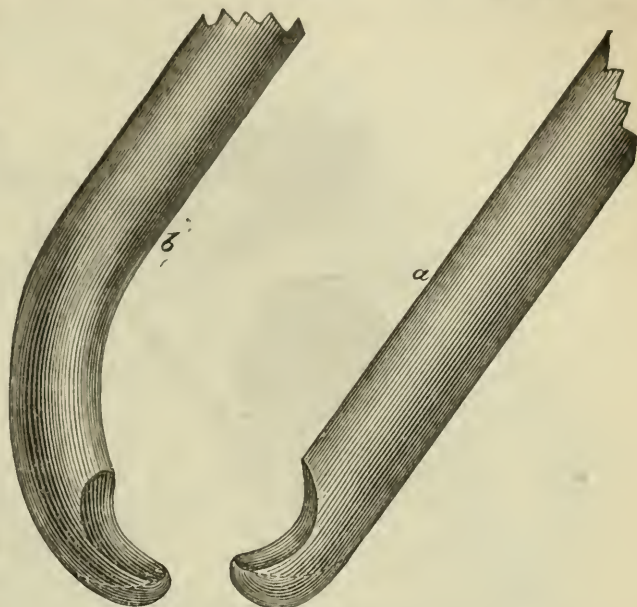
My evacuating tubes are of thin silver, of sizes 27, 28, 29, 30, and 31, *filière* Charrière, respectively.

(2.) *Shape of the tube.* Works upon lithotrity enumerate and figure a variety of tubes through which fragments are to be aspirated. Many of these are useless. The best tube is either straight, or curved quite near the extremity; the latter to be used with the curve inverted and directed downward, the orifice then looking forward. (Figure 2.)

(3.) *Shape of the receiving extremity.* The receiving extremity should depress the bladder when required to do so, and thus invite the fragments, while its orifice remains unobstructed by the mucous membrane. Upon the floor of the bladder when not indented, a fragment of stone, lying at the distance of half or even quarter of an inch from the tube extremity, may not be attracted by the usual exhaust of the expanding bottle, which requires that the fragment should lie almost in contact with the tube. A very slight obstacle also impedes its entrance; and this fact renders inefficient all tubes like catheters, with orifices along the side or upper wall. Chips will not surmount their edge. Again, the orifice of a tube cut square is at once occluded by drawing in the vesical wall, while the spoon-shaped beak of the French instrument, made like the female blade of a lithotrite, allows fragments to lie too far from the opening in the tube. The best orifice is at the side of the extremity, and is made by bending the tube at a sharp right angle, carefully rounding the elbow, and then cutting off the bent branch close to the straight tube. (Figure 2 a.) The tube is then practically straight, while the orifice, which is slightly oval, delivers its stream laterally. The edge should be thickened and rounded to slide smoothly through the urethra, any rim inside the orifice should be masked by a false floor, but the calibre should be nowhere contracted. If the side walls of this orifice be removed a little, it gives an unguiform extremity to the tube, which is advantageous; and in introducing such a straight tube this tip



may be insinuated through the triangular ligament by rotation. If a couple of inches of the end of such a tube be bent, it may be inverted after introduction, and will bury itself in the floor of the bladder, which it depresses, while the orifice looks forward and is unobstructed. (Figure 2 b.) This form is very efficient, although I prefer the straight tube as safer and more easily directed when in the bladder, less liable to lodge fragments, and more readily cleared by a rod. An effective instrument may also be made of a tube cut square at the end, if a disk convex outwardly, to repel the bladder, be attached to it, at the distance of a diameter, by a bit of stiff metal. This was the original of the straight tube already described. When

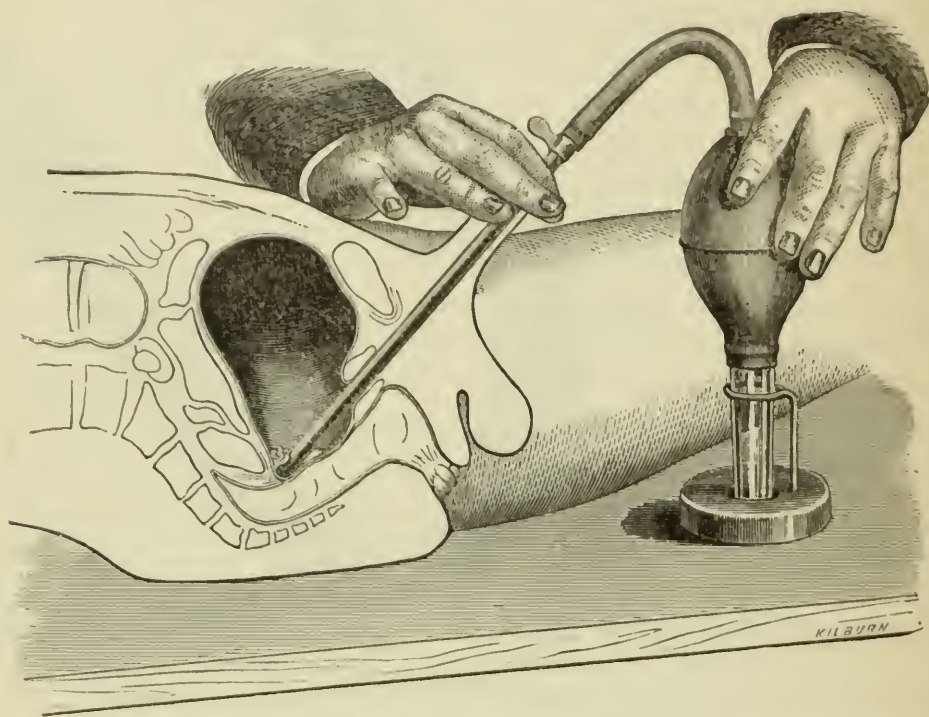


(FIG. 2.) Evacuating tubes, with unguiform extremity. *a.* Straight tube. *b.* Curved tube. The dotted lines show the false floor of the extremity. The tubes are here of a diameter 31 Charrière.

such an instrument is introduced the interval can be filled by a rod. In fact, the orifice of a tube should be contrived with a view to its introduction. The French tube already spoken of, shaped like the female blade of a lithotrite, would be efficient, if it were made large enough,—as it is not,—and provided also it were kept standing upon its heel in the bladder, with the shoe bent to make a precipitously inclined plane for the fragments. It would then offer a prolongation of the unguiform tip; but thus sharply bent, it would be less easy to introduce. Whatever be added to the extremity of the tube, in order to facilitate its introduction or to repel the bladder, should not prevent the orifice from lying, if required, in the floor of the bladder at the apex of a steep inverted tunnel.

(4.) *The manipulation of the bulb.* When the capacities of the bladder and urethra have been ascertained, the evacuating tube is introduced and the bladder completely emptied. A few ounces of water are next injected, that the fragments may be still floated after aspiration, and the apparatus, previously filled with water, is attached to the silver tube. To fill the bulb and at the same time expel the air, it should be held upright and several times compressed while the curved elastic is immersed in water. The latter is then carefully kept uppermost until attached to the evacuating tube. Air in the bladder is a disadvantage in distending it without floating the fragments. The

large bulb, together with its tubes, contains about ten ounces. If compressed with one hand until the sides meet, only about five ounces are displaced. If half compressed, and then gently worked with a shorter movement, about two ounces are moved back and forth, so that, provided the tube itself be handled carefully and skillfully, the bladder is not greatly disturbed. At the beginning of the process the latter movement



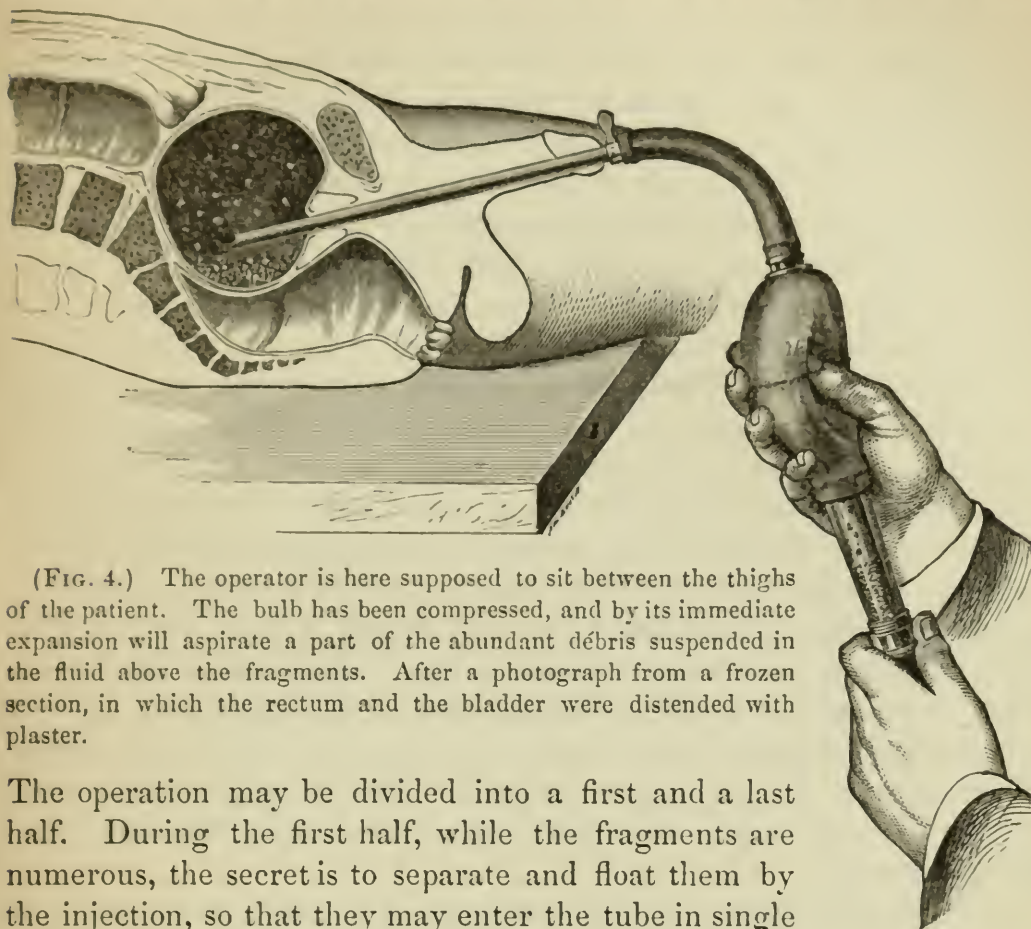
(FIG. 3.) The trap is here placed in a stand upon the table. The remaining fragments are few; and the capacious bladder is depressed to assemble them. The operator stands on the patient's left, and supports his right hand upon the thigh or pubes. This position is a convenient one during the whole evacuation.

is sometimes effective. The object of more water is to prolong suction when fragments are passing freely, but also occasionally to stir up the débris, and especially to relieve obstruction in the tube when it occurs. A convenient position for the surgeon is at the right hand of the patient, resting his left wrist on the pubes to steady the tube, while the bulb is supported in a stand on the table between the thighs. (Fig. 3.) Or, the surgeon sitting between the supported feet of the patient, (Fig. 4) compresses the bulb with the right hand, using the left alternately to hold the glass trap and to adjust the silver tube. But in this position the hand is apt, after a time, to bear heavily on the evacuating tube, so that it is better then to use the bulb as a handle to direct the silver tube, the interposed elastic saving the bladder needless fatigue.

(5.) *Evacuation of the fragments.* Evacuation of the fragments is quite an amusing art, requiring as much skill to accomplish the result in the shortest time as crushing them. Dexterity in the process will hardly



be acquired without practice outside the bladder.<sup>1</sup> If the bulb be compressed and immediately allowed to expand, while the tube is held above the débris, the fragments should fall in a shower into the trap.



(FIG. 4.) The operator is here supposed to sit between the thighs of the patient. The bulb has been compressed, and by its immediate expansion will aspirate a part of the abundant débris suspended in the fluid above the fragments. After a photograph from a frozen section, in which the rectum and the bladder were distended with plaster.

The operation may be divided into a first and a last half. During the first half, while the fragments are numerous, the secret is to separate and float them by the injection, so that they may enter the tube in single file as they fall, without obstructing it. This is accomplished by keeping the orifice of the tube away from the floor, aspirating them quickly while on the wing, just above the comminuted mass. In the latter part of the process, and after the smaller débris has been removed, the tube may be made to indent the floor so as to gather instead of separating the fragments, and as a final measure the tube should be raised towards a perpendicular in order to carry the orifice nearer the prostate. Some of the chips are apt to collect behind the tube orifice. The tube thus raised lies behind these chips. An advantage of the inverted curved tube is that it keeps the prostatic region clear. But the straight tube

<sup>1</sup> The bladder may be imitated by the lower two thirds of an ox bladder (carbolyzed for cleanliness) suspended inside a vessel, which has a mouth of four or five inches diameter, to which it is tied. The vessel should be previously nearly filled with water. To show the different and more efficient action of circular currents in the closed bladder, let the ox-bladder be tied to the evacuating tube, and held before a bright light. With a tin tunnel secured to the summit of a human bladder (*in situ*) to aid in replacing the fragments, the process of evacuation can be rapidly repeated. Calculi may be imitated by coal of varying hardness, or by a bit of old grindstone; a lighter and tough material for crushing, and liable to impact, is the cheap compressed meerschaum.

may be occasionally turned forward with the same result. A very slight movement of the tube sometimes makes much difference in the rapidity of the evacuation, so that when it is on the floor of the bladder, or quite near it, and steadied by the hand upon the pubes or the thigh, if any one expansion of the bulb proves more successful than another, the precise position then occupied by the tube should be carefully maintained. On the other hand, when the tube is choked at each expansion, if it be withdrawn or tilted up a half or even a quarter of an inch, it may happen that a shower of débris at once appears in the trap. Higher in the cavity, while the débris is abundant, the orifice may be turned downward or partly sidewise, so as to project horizontal currents around the bladder, the fragments being aspirated as they whirl. During this part of the operation there should be no interval between the compression and expansion of the bulb, the object being to catch the fragments while suspended. If there be any pause, it should be after the expansion, to give them time to settle into the trap. Later, when the fragments are too few instead of too many, a second or more may be allowed before aspirating to gather them into the depression in the floor of the bladder; especially as even a teaspoonful of water lightly injected on the floor shoots the débris to every part of the cavity. This artificial depression, which is made by very slight force, plays an important part both in gathering the fragments for crushing, and, at the end of the process, for evacuation. In placing the tube at the different stages of the process, there is opportunity for a little tact, as in discovering fragments with a lithotrite.

(6.) *The immediate recognition and removal of obstruction in the tube.* It has been said that when the trap is held upright, as in its stand, fragments should appear in rapid succession, so that if a short interval elapses without the fall of débris into it there is obstruction. This happens not only when the bulb will not expand, when its dimple disappears reluctantly and its compression is difficult, but also when the current passes so freely that an impediment would hardly be suspected.

Obstruction occurs in several ways.

(1.) In the elastic tube, which may be accidentally bent at an angle or compressed. This should be looked at first. A bit is sometimes lodged by the injected current at the end of the elastic, and can be displaced by pinching it.

(2.) Within the bladder the most common obstruction is at the orifice of the evacuating tube. A little practice will enable the operator to distinguish the encouraging rattle of débris passing this tube to appear at once in the trap (if upright), from the valvular click of fragments too large to enter it. This click is quite constant at the end of the process after the smaller chips have been sifted off. If the orifice be choked an effort should be made to expel the fragments in the ordi-



nary way : first raising the tube into clear water above the débris, and then compressing the bulb with a short and forcible jerk. A half dozen such efforts rarely fail, but the rod may be introduced if necessary.

(3.) It sometimes happens that nothing appears in the trap, although the current passes quite freely, and the click of abundant débris is still felt. A scale or angular chip is then wedged inside the evacuating tube, which admits water but excludes fragments. This is worth remembering. The rod removes it.

(4.) If a fragment rattles back and forth in the evacuating tube without reaching the trap, there is obstruction high up. (See 1.)

(5.) The only other source of obstruction, and not an uncommon one, is by the wall of the bladder, when drawn against the tube with a dull thud or a rapid succession of jerks, not unlike the bite of a fish. The tube orifice may be moved to another part of the bladder where aspiration is more free. Perhaps the orifice has been accidentally turned sideways. It then readily engages the floor. Or the walls of the bladder are a little slack, and more water may be advantageously introduced to distend them.<sup>1</sup>

After a few dozen aspirations it may be found that all the fragments which can pass the tube have done so ; and that many of them have, in some diameter, its full dimensions. By the usual method of crushing, the lithotrite would now again be introduced, and again be followed by the tube.

(To be concluded.)

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## RECENT PROGRESS IN SYPHILOLOGY.

BY EDWARD WIGGLESWORTH, M. D.

*Nature of Syphilis.*—The confusion due to non-comprehension of the varying results of inoculation has been partially explained by the establishment of the fact that the materials employed were neither pure nor identical, and now, by two hundred experiments, Tarnowski has shown<sup>2</sup> that still more confusion has arisen from the fact that the subjects of such inoculation were necessarily totally unsuitable for purposes of experiment, being, of course, already under the influence of the syphilitic poison. Thus, the general debility would diminish the power of resisting any additional depressing influence, and, consequently, exaggerated conditions would result as effects of inoculation. The quality also of the effects of inoculation would vary, and an induration might result, not due to the nature of the material employed, but to the fact that the syphilis already existing in the individual had exerted its nat-

<sup>1</sup> The process of evacuation has been improved by repeated experiment since this paper was first published, and as here described shortens materially the time before occupied in drawing off the débris.

<sup>2</sup> Viertelj. f. Dermat. u. Syph., N. F. iv., 1 u. 2, page 19, 1877.

ural tendency in this direction. Moreover, the results of any irritation of the skin of a person suffering from syphilis are most severe if inflicted at the time of special implication of this tissue in the morbid process, that is, during "secondary" eruptions or relapses specially affecting the skin, and they tend, furthermore, to assume the form of the lesion at that time present upon it. Finally, idiosyncrasies do not cease to exist when an individual comes under the influence of the syphilitic virus; and altered general conditions, such as alcoholismus or mercurialismus, must be borne in mind. Tarnowski adds his testimony to the fact that variation in appearances at the point of inoculation depend, as to persons already syphilized at least, upon the intensity of the irritative quality inherent in the material used, and not upon the presence in or absence from such material of the syphilitic contagium.

*Transmission of Syphilis.* — Zeissl<sup>1</sup> adds another to the long list of reported cases of syphilis communicated, though neither carried by nor received upon the genital organs. A joiner, twenty-eight years of age, entered the syphilis wards of the Vienna General Hospital October 9, 1876, with well-marked syphilis. The genitals were perfectly free from signs of specific lesions, present or past. The dorsal aspect of the left thumb over the metacarpo-phalangeal articulation showed a bean-sized, depressed, still partly infiltrated, hard, hyperæmic, irregular cicatrix where a drunken companion had bitten him on the 4th of the previous June. The wound had healed readily, but broken out again spontaneously four weeks after healing. The epitrochlear gland of this arm was still markedly enlarged at the time the patient was seen; that of the other arm was normal. It was proved that the inflicter of the bite had a syphilitic sore of the mouth. The general manifestations, as well as the initial sclerosis upon the thumb, yielded readily to treatment by inunction.

*Proper Treatment of Syphilis by Mercury.* — The method of Ludwig for the detection of mercury in the urine is capable of proving the presence of as little as the one millionth part, and Guntz has availed himself of this means in order to study the period of duration of this drug in the human system, and the liberating action upon it of sulphur internally and combined with baths. He finds<sup>2</sup> (1) that mercury may be detected in the urine after eight weeks or more have elapsed since the discontinuance of any mercurial treatment; (2) that in cases where the urine gives no evidence of the presence of mercury after the administration of the drug, this may be detected after two or three days of the sulphur treatment; (3) that after a few days of such treatment the urine no longer gives any signs of the existence in it of the metal; (4) that while the mercury is thus being eliminated from the system there

<sup>1</sup> Allg. Wien. med. Zeit., No. 2, January, 1878.

<sup>2</sup> Ibid., i. u. ii. Heft, 1877.



is frequently a fresh outbreak of the symptoms of syphilis. The therapeutic inferences from these facts are that mercury is the antagonist of syphilis; that it should be administered in small doses and temporarily discontinued upon the slightest manifestations of salivation; and that sulphur is of service where too much has been administered.

*Excision of the Initial Sclerosis.* — Auspitz during the last four years has cut out the initial sclerosis of syphilis, at varying periods of its duration, from thirty-three patients, and arrives,<sup>1</sup> from his observations of these cases, at the following conclusions: —

(1.) No general syphilis followed when soft chancres were excised; but from this nothing can be deduced.

(2.) Though indolent buboes were almost invariably present in the groins, they were absent elsewhere.

(3.) When no subsequent induration occurred at the spot where the original one had been excised, the patient, as a rule, escaped general infection. The assertion that such subsequent induration always occurs is false.

(4.) Phagedæna occurring after excision neither prevented nor foretold general syphilis.

(5.) Since well-established cases of initial sclerosis were not always attended by general infection, it is clear that such initial sclerosis is no pathological proof of constitutional disease already existing, but is simply to be regarded as the first *dépôt* of the infection, at the threshold of the physical system, whence the infection afterwards advances. The same reasoning applies to the indolent buboes of the groins, which have long been by Auspitz distinguished from the adenitis of general syphilis. Nearly all the cases of excision where no syphilis followed showed, at the time of the excision, swelling of the glands in the groins.

(6.) At times a subsequent induration appeared at the spot of excision; yet this must not be regarded as due to any general infection of the system, but as the local result of infectious material which had not been excised.

(7.) In cases where excision does not prevent general infection, it is still possible that it may have exerted some partially protective influence.

(8.) Excision of the sclerosis, as a protection against syphilis, is to be recommended when the sclerosis has existed but a short time, and when no other symptom of syphilis, except inguinal buboes, can be detected; provided that the sclerosis is where it can be removed easily and without danger. From the glans or sulcus coronarius nothing should be cut. Treat the spot of excision after operation as a simple wound.

*Excision of Sclerosed Lymphatic Glands.* — Dr. W. A. Hardaway, of St. Louis, in a most valuable paper<sup>2</sup> read before the American Derma-

<sup>1</sup> Viertelj. f. Dermat. u. Syph., iv. 3, page 297, 1877.

<sup>2</sup> New York Medical Journal, December, 1877, page 580.

tological Association at Niagara, considers that early extirpation of the sclerosed glands contiguous to the initial sclerosis, when they exist in places favorable to surgical interference, would in some instances serve to avert constitutional disease, and be as legitimate an operation as excision of the chancre itself. He bases this opinion upon the belief, rapidly gaining ground, that syphilitic virus is not absorbed by the blood, but is taken up by the lymphatic vessels, carried to the ganglia nearest the point of initial lesion, and, after there undergoing a period of localization for a variable length of time, is thence dispersed into the general circulation; and that, therefore, syphilis is never *ab initio*, but only secondarily a blood affection." He gives many cases tending to prove that the secretions of hard chancres and of secondary lesions will produce either hard sores followed by general infection, or soft sores not so followed, these varying conditions being dependent upon (1) the natural tendency to pus formation in persons free from syphilis; (2) the well-known aptitude to pus formation in persons having syphilis; (3) the almost certainty, when the purulent secretions of irritated syphilitic lesions are used, of causing soft sores, although in some cases, when such secretions are employed, certain of the sores thus produced may be soft and others on the same person hard, or first soft and later becoming indurated (mixed chancre).

He quotes Dr. Hyde, of Chicago, as alluding to Reynaud's experiments,<sup>1</sup> reported to the French Academy, proving that infectious material is introduced into the blood mass through the lymphatic system. Reynaud produced horse-pox by inoculation, and, when the vesicles were fully developed, laid bare a lymphatic vessel passing from the site of the lesion, opened it, established a lymphatic fistula, injected the lymph from this into the jugular vein of another horse, and after a due period of incubation had the satisfaction of seeing the second animal covered with an eruption of horse-pox vesicles.

*Hereditary Transmission of Syphilis.* — Kassowitz, in answer to the question, "Can the mother, acquiring syphilis during the period of pregnancy, transmit the disease to a fœtus healthy at the time of fecundation?" shows<sup>2</sup> that three conditions are indispensable to its consideration: (1.) The health of the father at the time of fecundation must be proved. (2.) The health of the mother at the time of conception must be established, consequently the time of her inoculation exactly determined. (3.) The syphilis of the child must be proved by unequivocal symptoms. If but a single one of these conditions is wanting, the case is not to be considered for an instant. Where all these have been regarded, Kassowitz finds no case on record of transmission during

<sup>1</sup> Le Progrès médical, June 23, 1877, and L'Union médicale, July 7, 1877.

<sup>2</sup> Translation of Dr. M. A. Wilson, in New York Medical Journal, July and August, 1877.



pregnancy from the mother to the child, and much evidence for the impossibility of such an occurrence. He concludes: (1.) That a child, both of whose parents were non-syphilitic at the time of procreation, does not become syphilitic, even if at any time during pregnancy the mother contracts the disease. The disease may disturb the normal course of pregnancy and interrupt it prematurely, but is never transmitted to the foetus. (2.) That a mother bearing a child infected by its father with syphilis is not herself infected by such unborn child. The virus does not cross the septum between the maternal and foetal vascular systems.

The paper<sup>1</sup> of Kassowitz is answered<sup>2</sup> by Caspari. He remarks that, in order to prove that a mother giving birth to a syphilitic child is herself free from this disease, positive not negative testimony is needed, or, in other words, such a mother must in at least one case have manifested the usual early symptoms of a recently acquired syphilis. Until this has occurred we must presume that such mothers cannot be infected, by inoculation or otherwise, for the simple reason that evident or latent syphilis already exists in them. Such inoculation he has made with negative result. A careful examination usually discloses signs of existing syphilis. A case reported<sup>3</sup> by Ljunggrén shows that syphilis can remain latent, late, "tertiary" symptoms, so called, appearing afterwards. The non-infection of nursing mothers by their hereditarily syphilitic children bears testimony also to this. So the similar condition of latency in domestic animals, as shown by the often-cited case of Youatt, a virgin mare being covered by a quagga, and at later periods, when covered by stallions, dropping always a foal bearing quagga-marks.

As to the non-infection of a healthy foetus by a mother who acquires syphilis at any time after conception, on account of the impermeability of the septum between the maternal and foetal vascular systems, Caspari cites Friedreich's case of metastatic carcinoma in mother and foetus; that of Gusserow, who gave iodide of potassium to a pregnant woman, and found it in the amniotic fluid and in the urine of the child; and that of Benecke, who did the same with salicylic acid, while Magendie, Gusserow, Fehling, and he himself have detected in the foetus of the rabbit coloring matters injected into the mother.

In regard to the gradual elimination of the poison from the system of the mother, so that children of an infected mother are born each less affected than the previous one, Caspari would admit this, as the rule, while yet calling attention to Hutchinson's case of twins, one markedly syphilitic, the other never showing signs of infection.

*Bone-Lesions in Hereditary Syphilis.* — As diagnostic marks of inherited syphilis, Parrot calls attention<sup>4</sup> to certain osseous conditions,

<sup>1</sup> Med. Jahrb. Stricker, Wien, 1875, iv.

<sup>2</sup> Viertelj. f. Derm. u. Syph., 1877, iv.

<sup>3</sup> Arch. f. Derm. u. Syph., 1870, p. 325.

<sup>4</sup> Gazette des Hôpitaux, September 25, 1877.

the presence of which would be characteristic although other clinical signs might be wanting: thus an osseous bulging or tumefaction upon the inner aspect of the tibia occupying its whole extent, or constituting a series of small protuberances separated by depressions; so, also, at the lower end of the humerus, a thickening of the epiphysis as compared with the diaphysis, a point already considered by Taylor<sup>1</sup> (R. W.), of New York. From the seventh to the twelfth month, in addition to absence of hair, tuberosities like orange-seeds may sometimes be felt upon the sinciput, especially around the anterior fontanelle. Fusiform tubercular nodosities like olives occur also, though rarely, near the head of the femur and other long bones, due to consolidating fractures. Any or all of these conditions may be found with no other manifestation of the existence of the disease.

*Syphilitic Disease of the Eyelids.* — Forty years ago the nature of syphilitic iritis had been recognized by but few writers, while even to-day syphilitic disease of the eyelids is very seldom recorded. Zeissl attributes<sup>2</sup> this to several causes: (1.) Ulcerative processes in this situation are not often, except in the case of scrofulous individuals, accompanied by lymphadenitis. (2.) Connective-tissue indurations, especially those of syphilitic origin, develop more rapidly in the eyelids than upon any part of the integument, thus confusing the diagnosis, and finally, (3) both macro- and microscopically the initial sclerosis of syphilis and its final product, the gumma, are here with difficulty distinguished. We must, therefore, be always guided by the coincident existence of other lesions; and just as we distinguish an iritis papulosa and an iritis gummosa, so we are also justified in a distinction between blepharitis papulosa and blepharitis gummosa, according to the presence of early or late disease products elsewhere upon the body. B. gummosa is followed, however, by loss of substance here as elsewhere, while b. papulosa leaves no trace, or merely a superficial one. Furthermore, b. gummosa is accompanied by other deep tissue changes, as, for example, tarsitis palpebrarum; for, although Waldeyer denies<sup>3</sup> the existence of cartilage cells in the eyelid, this has been admitted by Hyrtl, Langer, Kölliker, and others. Syphilitic disease of the eyelids must also be distinguished from carcinomatous or lupous affections.

*Syphilis of Supra-Renal Capsules, Pancreas, etc.* — Syphilis of the supra-renal capsules has heretofore been observed only in consequence of hereditary syphilis.<sup>4</sup> Chvostek, however, reports<sup>5</sup> a case of acquired syphilis, where, together with disease of the skin, liver, kidneys, lungs, and even pancreas, amyloid degeneration and chronic, interstitial, con-

<sup>1</sup> Bone Syphilis in Children, New York, 1875.

<sup>2</sup> Allg. Wien. med. Zeitung, 35, 36, and 37, 1877.

<sup>3</sup> Handb. d. gesamt. Augenheilk. red. von Graefe u. Samisch., 1 Bd., 1 Abth., page 236.

<sup>4</sup> Merkel in Ziemssen's Handb. d. spez. Path. u. Ther., viii., Bd. 2, 21, page 313.

<sup>5</sup> Wien. med. Woch., No. 33, 1877.



nective-tissue hypertrophy of the supra-renal capsules were discovered after death, though there had been during life no clinical manifestations of their existence. Syphilitic disease of the pancreas, also present in this case, belongs likewise to the rarities of medical literature.

*Syphilis of the Nose.* — Schuster and Sanger recommend <sup>1</sup> the use of the scraping-spoon for the removal of syphilitic growths of the nasal cavity, to prevent falling in and to arrest the disease process. Even perforation of the palate by scraping is at times the lesser of two evils. Artificial illumination should be used. Pathologically the conditions existing vary. There may be: (1.) Simple syphilitic infiltration, the mucous membrane not hypertrophied, with or without alteration of the glands, capillaries, or epithelium. (2.) The same, with hypertrophy of the mucous membrane and constriction of the dilated capillaries by means of cell growth; or, without this, a fact favoring the views of Auspitz and Unna upon the anatomy of the initial sclerosis, namely, that the vessels remain, as the rule, unobliterated. (3.) More severe infiltration of mucous membrane, passing into syphiloma. (4.) Syphilomata of the mucous membrane, or condylomata. The subjacent bones and cartilages may show either necrosis with exfoliation, absorbent inflammation without loss of the mucous membrane, or plastic osteitis with the production of spindle cells and connective tissue passing into bony formations.

The practical points are that (1) whereas ulceration of the mucous membrane has been held by writers to be the sole cause of ulceration of the bone and cartilage of the nose, this need not be the case. That membrane may remain uninjured while the subjacent tissues undergo changes like those of the tibia or frontal bone. (2.) A healthy mucous membrane may be caused to ulcerate by mechanical interference, and then this ulceration may extend to the bones, or disease process in subjacent bones may now pass over on to the injured membrane.

*Syphilis of the Heart.* — As early as 1844 Hammernjk reported <sup>2</sup> a case of insufficiency of the tricuspid valve, due to multiple inflammatory new formations in the papillary muscles. Virchow regards as gummous myocarditis a large number of such cases reported before the structure of the syphiloma was accurately recognized. As sequences of gummata E. Wagner has described (1) atrophy, (2) ulceration or formation of cavities; and Friedreich, certain well-marked white and callous bridges of connective tissue as late inflammatory products of subendocardial syphilomata. Greffner now reports <sup>3</sup> such a case, in which for years insufficiency of the aorta had existed, to which was added later tricuspid insufficiency, causing the death of the patient, and ascertained by

<sup>1</sup> Viertelj. f. Dermat. u. Syph., iv. 1 and 2, page 243, 1877.

<sup>2</sup> Oesterr. med. Woch., 1844, No. 2.

<sup>3</sup> Deutsch. Arch., xx. Bd., 5 u. 6 Hft, 1877, page 615.

Cohnheim, at a post-mortem examination, to be due to gummous myocarditis with the sequences referred to above. The endocardium was protruded by the gumma into the heart's cavity, producing circumscribed endocarditis in the neighborhood of the ends of the papillary muscles, and resulting in an adhesion of the new formation with the anterior left extremity of the tricuspid valve, the gumma subsequently wasting under the pressure of new-formed sclerotic tissue.

*Neuro-Syphilis.* — As nervous diseases of syphilitic origin are more amenable to treatment than the corresponding idiopathic ones, a correct diagnosis may at times be sufficient to save a life otherwise lost. Althaus calls attention<sup>1</sup> to the fact that though the brain and cranial nerves are by preference affected, the spinal cord is by no means exempt. Syphilitic affections of the nervous system are late forms. Traumatic injuries or depressing emotions act frequently as exciting causes, while a powerfully predisposing cause is an unsystematic or insufficient treatment of the disease in its earlier stages. Cerebral syphilis may appear as (1) successive hyperæmic attacks, with symptoms like those of general paralysis accompanying outbreaks of the disease process locally upon the body, and without treatment the patient finally dies of marasmus. (2.) Syphiloma, accompanied by paroxysmal and intolerable nocturnal headache and by sleeplessness, especially in young persons in whom insomnia from other causes is rare. (3.) Disease of the arteries, followed by apoplexy or thrombosis with necrobiosis and syphilitic hemiplegia, after which recovery under the best treatment is generally imperfect.

Dr. Greenfield showed to the Pathological Society of London a case of this sort,<sup>2</sup> a small syphiloma of the anterior cerebral artery, consisting of a small cell growth around minute vessels which were obstructed by a thickening of their coats, due to a concentric growth developing apparently from the endothelial lining of the vessels. This process, progressing to total obstruction of vessels and their consequent obliteration is a characteristic feature of syphilitic new growths, and is, according to Dr. Payne, the probable cause of the apparent caseation.

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## EXTRACTS FROM THE RECORDS OF THE DORCHESTER MEDICAL CLUB.

C. ELLERY STEDMAN, M. D., SECRETARY.

*Two Cases of Death from Impacted Gall-Stones.* — DR. C. C. HOLMES reported the case of Mr. J. C., aged sixty-one, a healthy and athletic man whom he had attended seven years before for an attack of gall-stones, since which time he had enjoyed perfect health. On the morning of the 21st of June Mr. C. was

<sup>1</sup> Med. Times and Gaz., November 10, 1877.

<sup>2</sup> Lancet, November 24, 1877.



seized with intense pain of a remarkably persistent nature in the epigastrium, and constant uneasiness with exacerbations of great intensity, increased by motion, accompanied by constipation, vomiting, hard, tumid abdomen, small pulse (130 to 145), and collapse. The patient was relieved by an injection of morphine subcutaneously, but without further symptoms sank and died in about forty hours from the beginning of the attack.



Fig. 1.

*Autopsy* by Dr. Stedman. All the organs except the brain were examined and found healthy but the gall-bladder, which was filled with a dark, thin glairy fluid; at its fundus was found a sac, about the size of half a small thimble, apparently imbedded in the wall of the gall-bladder and in the substance of the liver, filled with calculi not much larger than the head of a pin. There were no traces of recent inflammation around this sac. The gall-ducts were not distended, but at the junction of the ductus communis with the duodenum was firmly jammed a cylindrical calculus (as in the diagram

Figures 1 and 2) which could neither be pushed in nor out. It appeared that the collapse and shock of the intense spasm induced by the attempted passage of this stone were the causes of death.



Fig. 2

DR. B. CUSHING showed a specimen of a gall-bladder containing two gall-stones, another loose in the duct which it distended, and another in the mouth of the duct as it emptied into the duodenum, completely plugging the orifice. (Figure 3.)

The patient, a woman, aged fifty-six, was seen by Dr. Cushing a year ago, when she told him that she had had attacks of colic which had been relieved by homœopathic treatment, and that she was now losing strength and flesh. The last attack required full anodynes, and the paroxysms were as frequent as once a week or fortnight.

She was treated beneficially by rigid diet, mostly liquid, and in limited quantities, and fifteen minutes before each meal  $\frac{1}{2}$  grain each of quinine and morphia. She had never had jaundice. A month before she had sent for Dr. Cushing, when he learned that on the previous afternoon she had had an attack of pain for which she took "Haarlem oil." She had a restless night, and summoned the doctor because she felt so "weak." He found her with scarcely any pulse, complaining of epigastric pain. She lived an hour.



Fig. 3.

The autopsy showed the gall-bladder, with the calculi as above described. There was no sign nor product of inflammation in or around the parts. The heart was fatty. At no time had she *intense* pain. There had been no jaundice.

DISEASES OF THE NASAL CAVITY AND PHARYNX.<sup>1</sup>

THE author of this little monograph, as some of our readers are well aware from having read articles of his in the original, is an ardent advocate of the use of galvano-cautery in most of the catarrhal affections of the nasopharyngeal space; and though we may fall considerably short of the results claimed by him, yet it is to be regretted that the use of this very valuable agent will probably remain much too limited till its application can be made easier. Michel claims to cure all cases of chronic nasal catarrh by removing all loose mucous membrane with the galvano-caustic loop, and scoring thickened parts with the galvano-caustic point. He very properly protests against the barbarous practice of removing nasal polypi with forceps, and, like Voltolini, prefers the galvano-caustic loop for this purpose. For hypertrophy of the pharyngeal tonsil he uses the "pharyngeal polyp loop."

The book contains many valuable suggestions as to details of galvano-caustic operations in the regions referred to. The translation is very well done.

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INSANITY AND MEDICAL EDUCATION.

THE State of Massachusetts has recently expended about two million and a half dollars in the erection of a couple of insane asylums which may, by crowding, contain a thousand patients. Not a cent of this extravagant outlay has gone towards providing for medical education even such facilities as were had in Paris at the close of the last century. With more than two thousand insane people in our asylums, and probably double that number in our population of a million and two thirds, there is no opportunity for the medical student of this State to get the most superficial, practical knowledge of insanity without going to New York or Europe. A few years hence Baltimore also will offer him the best facilities in this regard, for the trustees of the Johns Hopkins Hospital have already made arrangements to have that important branch taught clinically at the Shepherd Asylum, now building.

The evils of this deficiency in our medical education are twofold. In the first place there are, and there probably will be for some years to come, many persons suffering from the milder forms of mental disease, who will not go to an insane asylum, whether it is best for them to do so or not; and they must, in the vast majority of cases, take their chances of proper or improper treatment from men who have had no opportunity of learning what the best course for them is. This is thought by competent observers to be one of the prominent causes of the neglect of early cure and of the accumulation of chronic, incurable cases in the community. In this connection it is proper to call attention to the great numbers saved from death by pulmonary consumption through the general knowledge of its detection and treatment *early*, and to say that disease of the mind is not the awfully mysterious thing that many people suppose it

<sup>1</sup> *Diseases of the Nasal Cavity and the Vault of the Pharynx.* Translated from the German of DR. CARL MICHEL by MR. C. JUNG. Detroit. 1877. Pamphlet, pp. 109. (For sale by A. Williams & Co.)



to be. It should be treated on the basis of common sense and knowledge of practical medicine, both of which qualifications are not so difficult to acquire with proper facilities, such as every first-rate medical school should furnish.

In the second place, the asylums themselves are sufferers from the short-sightedness of their own policy in this matter. Almost none in this country make careful pathological researches, very few systematically perform autopsies, and two or three only have specially-appointed pathologists, while some of the best have not even a room adapted to making post-mortem examinations. The wards of the asylums are closed to the clinical teacher and to the student; two or three physicians go daily through the routine of case-taking, prescribing, and writing records for sixty or a couple of hundred of patients each, exhausting their mental and physical energies in attempting a multiplicity of duties which they cannot by any possibility fully perform, and what is the result? (1.) The patients cannot get proper care; (2) the asylums, instead of becoming progressive, must follow the old marked-out lines; (3) nothing is done to advance medical education, and not enough to raise the standard of scientific treatment; (4) when vacancies occur in the medical staff, accomplished men hesitate to assume positions of such drudgery, and (5) properly trained men are wanting to take the offices when they are offered. Many of us have ransacked our brains with wearying frequency to find some willing and suitable person to go to one asylum after another.

The remedy is so simple and has been so long in common use in other countries that it is strange we have not adopted it here, instead of devoting so much time to "hospital architecture," as it is called. Let us hope that external architectural effect and multiplication of mechanical appliances have reached their climax in the hospital that has a machine for making mop-handles and no provisions for advancing medical science or teaching students. There would be no difficulty in having clinical instruction in an asylum if sufficient interest were awakened; pathologists could easily be appointed, and autopsy-rooms might readily be prepared. A half dozen house officers, too, or even a smaller number, holding the office for six months, would relieve the superintendent and his staff of much routine work, beside adding a constantly fresh element to the direction of the hospital and furnishing a corps of trained men from whom assistant physicians could be selected whenever wanted. The patients would benefit by the increased attention to little matters, and the superintendent might devote more of his time to general study and fresh air, to the manifest advantage of his charge. Many of us will live to see the time when there will be in all of our leading asylums for the insane two medical men competent to be chief, so that the superintendent and his first assistant can relieve each other of continuous work, to such a degree that one will be away getting strength and fresh ideas a considerable portion of the time. The present system, at least, cannot long stand against the current which is pushing forward so rapidly to advance all branches of medical knowledge.

## THE CANADA MEDICAL ASSOCIATION.

WE have received the first volume of the Transactions of the Canada Medical Association, containing an account of its tenth annual meeting held at Montreal on September 12th and 13th. The address by the president, Dr. William H. Hingston, discusses with ability a variety of subjects of interest to the profession in Canada. In speaking of medical education he points out strongly the advantages of a liberal education for those who intend to study medicine. He makes no allusion to the system of teaching medicine in Canada or comparisons with the new system in course of adoption in the United States. In alluding to the proposed union with the American Medical Association, favored by Dr. Bowditch when president, but reported upon adversely by the judicial council, he explains that the Canada association did not ask for amalgamation, but merely for "a conference at some central point," so as to become "more intimately acquainted," and to discuss "medical and surgical questions on a common basis." He thinks that the union of the two associations is in the near future. There are reports on the Progress in Canadian Medicine, by Dr. George Ross, of Montreal; on Therapeutics and New Remedies, by Dr. Fulton, of Toronto, and on Canadian Medical Literature of the past year, by Dr. Howard, of Montreal. Among the numerous other papers we notice one on Crime and Insanity by Dr. Workman, on Vital Statistics by Dr. A. B. Larocque of Montreal, and an interesting illustrated paper on Excision of the Knee-Joint by Dr. George E. Fenwick. The president for the present year is Dr. Joseph Workman, of Toronto, and the secretary is Dr. A. H. David, of Montreal. The next meeting will be held in the city of Hamilton on the second Wednesday of September, 1878.

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MEDICAL NOTES.

— The present Report of the Board of State Charities should be read by the light of that of last year, and of the report of the commission appointed by the governor and council to inquire into the expediency of revising the system of administration of the public charities of the commonwealth, a report published December, 1877.

We shall have cause to be entirely satisfied with the administration of the public charities only when no further improvement is possible. The State has doubtless no reason for being dissatisfied with the administration of the present system (if the word can be used in this connection), but the system itself has been outgrown, as is recognized by the Board of State Charities itself. We are disposed to think that the abolition of the present board, and the adoption of such a system as that recommended by the commission above referred to in its excellent and extremely painstaking report, would greatly diminish friction and increase at once economy and efficiency in the working of our public charities.

— In the number of the JOURNAL for January 24th attention was called to the condition of the tympanum as a sign of respiration in the new-born child,



and it was credited as new to Dr. Gellé in the *Lyon Médical*, 1877. Investigation shows that the anatomical changes in the fetal tympanic tissue, previously noticed by Von Troeltsch, were fully described by Wreden, of St. Petersburg, in the *Monatsschrift für Ohrenheilkunde*, August, 1868; and later he calls attention to the medico-legal value of these changes in an article entitled the Ear-Test as a Substitute for the Lung-Test in Cases of Judicial Investigation when the Head of a New-Born Child is found separated from the Body, in the *Vierteljahrsschrift für gerichtliche Medicin*, vol. xxi. In the *Medico-Chirurgical Review*, vol. xii., Ogston denies that this test is of legal value, and its value has also been questioned by other investigators.

— An amiable but not very logical little book has just been published in New York on the State Regulation of Vice, in which prostitution is looked upon entirely as a question of morality, where one sex sacrifices the other in pursuit of the gratification of its lust. The question, however, is largely one of ethics, and its social and sanitary bearings are so broad and so deeply interwoven with the whole system of human life, from the days of Solomon and Pompeii down to the present day, that they cannot be adequately treated in arguing whether “God has so created men and women as to render prostitution an inherent human need;” nor are the problems connected with syphilis and impure sexual intercourse likely to be fairly treated in that frame of mind usually found in “a Christian woman whom God appears to have commissioned specially to lead in a righteous crusade against state-regulated vice and all social impurity.” Many of us who have had dispensary districts consider the vast majority of prostitutes as often voluntary sacrifices to their own lust, or their own determination to live luxuriously without hard work, as doomed to lives of infamy by the lust of men. What to do with them, and how to make them work the least possible injury to the community, is a problem which, in its magnitude, has fairly staggered the wisest men, and on which the book before us sheds only a feeble ray of light, although showing that there is a very wide-spread opposition (as brought out by the Geneva Congress) to legalizing prostitution in any form.

— Many of our readers have seen the elegant little machine known as Dr. Pond’s sphygmograph. He has continued to make improvements in it from time to time, and it has now reached a high degree of perfection. The great difficulty experienced in the application of the sphygmograph is, in this instrument, obviated by means of a delicate spring balance, which shows the exact amount of pressure applied to the pulse. A pendulous mirror has been adopted for the use of light. The most delicate vibrations of the pulse can be thrown on a screen and enlarged to any extent desired. It will be found convenient for teachers of physiology, and of practical use to the physician. By this means the pulse can also be photographed.

— The St. Mary’s Infant Asylum of Dorchester has been for the last six months under the charge of Dr. E. D. Peters. The annual report, which lies before us, shows considerable improvement in the sanitary condition of the institution. The mortality of children under six months of age is, however, large, there having been sixty-six deaths among the one hundred and five who were admitted during the year. Of sixty-five, however, who were over six months of

age, but four died. The report states that "many of the young infants are brought to the house in such a wretched condition that they die within a day or two after entrance, and in some cases before their wrappings are removed. In many other instances the infants exhibit no particular signs of disease. They take and digest large quantities of milk, there is no vomiting, the bowels are normal, but the child wastes away and dies. It is to such cases that the term 'marasmus' is applied, for want of some better designation.

"The cases of ophthalmia, though numerous, were not severe. In only three instances was there any ulceration of the cornea, and of these all escaped with perfect vision as far as can be ascertained."

— So many opinions have been expressed as to the value of beef tea and the proper way to prepare it that we venture to copy the following extract from a valuable lecture on Typhoid Fever, by Professor Pepper, in a late number of the *Philadelphia Medical Times*: "Indeed, as has been very thoroughly proven by Dr. Horace Hare in experiments made at the university laboratory, beef boiled in the good old-fashioned way in a bottle with water gives us a resulting solution which contains only about one fourth of one per cent. of nourishing material. The beef tea thus manufactured is chiefly a solution of the salts of meat, and is therefore not nutritive, and only valuable as a stimulant to digestion. But there is another way of making beef tea, which gives better results. Take a quantity of tender meat, and, after cutting off the fat, chop it up fine, put it in a bowl, pour a pint of water over it, and let it stand over night. It may possibly be well to keep the water just on a simmer; do not raise the temperature above 140°, however, or you will coagulate all the albumen, and so either leave it on the sieve in straining, or introduce it into the stomach in the form of curds. After this simmering solution has been allowed to stand over night, pour it into a pipkin and heat it again gently, with enough salt to give it flavor, and, if necessary, add a drop or two of muriatic acid. Then pour it out over a hair sieve into a jar. The resulting solution will contain all the nutriment possible, and is the most valuable kind of stimulant and laxative."

— Senator (*Virchow's Archiv*, B. lxx.) thoroughly plastered and varnished the legs and trunks of two healthy men. The impermeable dressing was worn for one week, with no fall of temperature, no exhaustion, albuminuria, dyspnoea, convulsions, or paralysis, which evil consequences are invariably seen in animals. Senator concludes that the historic gilded boy was probably poisoned by some ingredient in the material applied to his skin.

— *La France médicale* announces the admission of midwives to the obstetric clinics of 1877-78. Until 1874 they were required to pass an examination in orthography alone. This year they were examined in spelling, arithmetic, the metric system, and the geography of France. Out of eighty-five applicants forty-eight were admitted. Of these fourteen passed a perfect examination.

— *Le Journal officiel* states that in the course of the present year a hospital conducted by female physicians will be opened in Berlin, if the administration give permission. Already a clinic directed by physicians of the female sex exists in the capital of Prussia.



— According to the terms of Sir Astley Cooper's will, funds were provided for a prize to be called the Astley Cooper Prize for the best original essay or treatise. Says the *Deutsche medicinische Wochenschrift* for December, "As is well known, the prize for this year should have been awarded to Professor Eulenburg, of Greifswald, and Dr. P. Guttman, of Berlin, for their united essay. But the medical world in old England could not endure this distinction of two Germans. It was therefore protested that the competing paper should have but one author. Unfortunately the solicitor-general adopted the same view, so that the first decision was reversed, and the prize was adjudged to the second-best paper. Its author was G. A. Wood.

— The *Lancet* cautions the public against the use of books which have been allowed to lie about in sick chambers, and thinks there is reason to suspect that communicable diseases are not infrequently spread by means of books lent for general reading. And since it knows of no way of disinfecting such books, the *Lancet* calls upon custodians of libraries to take measures which will provide against this danger.

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## BOSTON CITY HOSPITAL.

### SURGICAL CASES OF DR. GEORGE W. GAY.

*Amputation by Lister's Method of Part of Foot for Railroad Injury ; Recovery.* — P. H., aged twenty-four years, had his left foot badly crushed by falling under a car, while in an intoxicated condition. All the metatarsal bones except the first were broken, and the soft parts on the top of the foot were torn up and bruised as far as the instep. Three toes were crushed off completely. It was the unanimous opinion of three of the surgical staff who saw and examined the patient that a portion of the foot should be amputated.

The patient was etherized, and the tarsus was sawn through the scaphoid and cuboid bones, the flap being made up of a long piece of skin on the inside of the foot and as much of the plantar tissues as was not too much injured at the time of the accident.

A great number of small vessels were tied with the catgut ligature ; the wound was closed with silk sutures ; the operation was done under the carbolic spray, and the stump was dressed after Lister's method, as often as any discharge appeared at the edge of the gauze, for forty-five days. At first the dressings required changing every day or twice a day, but afterwards they were allowed to remain a week. A portion of the flap sloughed, but not enough to impair it to any extent. There was little if any fœtor to the discharge. The wound was entirely healed in two months.

*Stone in the Bladder ; Lithotomy ; Recovery.* — T. M., aged nineteen years, was born and has always lived within ten miles of Boston. For three years past he has been drinking water from a well into which lime was occasionally thrown for purposes of purification. Frequent and painful micturition began a year and a half previous to his entering the hospital in September last. At that time he was obliged to pass his water every half hour or hour, and at times even oftener. Examination of urine : neutral ; specific gravity 1020 ;

urea normal; albumen in large quantity; copious sediment containing pus, blood, pavement epithelium, and crystals of triple phosphates. At times what seemed to be a small stone could be detected with the sound, but very often nothing could be found in the bladder.

November 30th. Patient etherized, and the lateral operation for lithotomy performed. A phosphatic calculus, one inch and seven eighths in length and weighing five hundred and forty grains, was removed. Hæmorrhage free; wound plugged with the canule à chemise.

The urine began to flow from the meatus in a fortnight, and soon after all of it came the natural way when he kept his thighs together. At the end of two months he held his water three hours during the day, and six or seven hours during the night. Wound closed.

*Abscess about the Scapula mistaken for Rheumatism.* — J. B., a large colored man, said he had been treated for rheumatism previous to coming to the hospital. His pain had always been confined to the right shoulder and vicinity. On examination a tense, fluctuating tumor was found to extend from the lower edge of the scalp down below the inferior angle of the scapula, and forwards nearly to the head of that bone. Two moderate openings were made into the swelling, and sixty ounces of pus by measurement were evacuated. The patient was discharged, well, in twenty-eight days.

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#### LETTER FROM PHILADELPHIA.

MR. EDITOR, — Strong and concerted effort is now making by the medical profession throughout this commonwealth, directed toward the object of obtaining the necessary legislation from the proper authorities at Harrisburg for the establishment of a State Board of Health. At the last meeting of the State Medical Society, in June, 1877, a resolution was adopted earnestly commending such a course to the legislative bodies, and asking the coöperation of the various county societies and the personal influence of their members in endeavoring to secure for this bill the enlightened and favorable consideration it eminently deserves. The profession in Pennsylvania are keenly alive to the importance of the subject, and are using every legitimate means of accomplishing their object and securing for our State the advantages already enjoyed by sixteen other States in the Union. Nor have they just awakened to its importance, for this step has been urged for several years, and indeed a bill of this character was brought before the legislature last winter, and fell short of becoming a law by one vote only. The prospect now seems more favorable to its passage, and we hope very soon to hear of the adoption of the resolution, under the title of A Bill to create a State Board of Health, to provide for the Registration of Vital Statistics, and to assign Certain Duties to Local Boards of Health and Health Officers in this Commonwealth.

The States which have thus far shown their appreciation of the necessity for governmental direction and the value of organized and systematic action in all matters pertaining to the public health are Alabama, California, Colorado, Georgia, Illinois, Louisiana, Maryland, Massachusetts, Michigan, Minnesota,



Mississippi, New Jersey, North Carolina, Tennessee, Virginia, and Wisconsin. This gratifying result is largely owing to the influence of the American Medical Association, and the labors of the committees appointed, at its meeting in Philadelphia in 1876, for the specific purpose of urging upon the proper authorities the importance of the establishment of a board of health in every State in the Union. We are glad to learn that in Connecticut and several other States the local committees are actively at work, and are likely to succeed in the near future.

Dr. Brown-Séguard is now in Philadelphia, and has consented to deliver two lectures before the Philadelphia County Medical Society, on Paralysis and Convulsions as Effects of Disease of the Base of the Brain. We anticipate an intellectual feast in listening to these discourses, which by the time this is received will probably be *un fait accompli*, as the dates appointed by the committee are the evenings of the 15th and 16th inst. ; the place selected is the auditorium of the Jefferson Medical College Hospital.

The schools are now at an uneventful stage of their course, bending all their energies to preparing for the examinations next month. The new plan, we are informed, is working most satisfactorily at the university, and those to whose energetic efforts the change is chiefly due claim for it an unqualified success. A guarantee fund of fifteen thousand dollars per year for four years has been subscribed to carry the school through the transition period, and, as all of this will probably not be required for current expenses, many of the subscribers have consented that the balance shall be carried to the permanent fund for endowment purposes. It is also whispered that some friends of the medical department have liberally remembered it in their wills, and it is confidently hoped that before long the school will be upon an independent footing. The widow of Dr. Rhea Barton, preferring to enjoy the pleasure of giving while living to see the good fruits of generosity, has paid to the board of trustees the sum of fifty thousand dollars to endow the chair of surgery, now ably filled by Prof. J. Hayes Agnew.

The number of students at the university is said to be about the same as last winter, although the exact number has not been announced. At the Jefferson it is exactly the same as last year, by a strange coincidence, five hundred and ninety-eight matriculants having registered thus far this session. The graduating class in the spring, however, will probably be smaller than it was a year ago, as an increasing proportion of the students are beginning to recognize the advantages offered by the third term, for which, it will be remembered, no additional expense is incurred. Every encouragement is offered by the faculty to induce those students who can afford to devote the additional time to remain for a third year. In truth, the lecturers on the practical branches have been obliged of late, by the constant accumulation of fresh facts in the progress of medical science, to divide their courses, to a greater or less extent, and take up certain important subdivisions of their subjects on alternate years, thus practically extending their course into another session. This plan has been pursued for several years by the lecturers on the practice of medicine, both at the Jefferson College and the University of Pennsylvania, and it is now being adopted by other members of the faculty.

The expedient of strapping the affected side in acute pleuritis recommended by Dr. Gleason, in your issue for January 24th, is well thought of in Philadelphia, where it has been under trial for several years, and may now be considered as fairly past the probationary period and as occupying the position of a standard resource in the condition referred to. Why it has not gained a favorable notice in the text-books is unaccountable, since it is, as Dr. Gleason avers, a valuable means of treatment, affording marked relief to the patient, and evidently conducing to early convalescence. This practice originated here with Prof. John B. Biddle, dean of the Jefferson College, who first made use of it nearly twelve years ago in a case of empyema in a boy at Girard College, giving permanent relief. He has been resorting to it in all stages of the disease for nearly six years, and has frequently spoken of it in terms of commendation to the class during that period, and it should now be widely known and more frequently practiced. Mention of this method will be found in the last three editions of Dr. Biddle's *Materia Medica*. In severe cases it is recommended to carry the adhesive straps completely around the thorax, so as to control the movements of the chest walls and to compel the patient to carry on respiration solely by the diaphragm and abdominal muscles. This is not meant to exclude other treatment, however, but merely to serve as an adjunct to it.

Dr. Laurence Turnbull, who, it will be remembered, acted as one of the committee of arrangements of the Philadelphia County Medical Society at the International Medical Congress, and after being elected chairman of the section of otology graciously resigned in favor of Dr. C. J. Blake of your city, has just compiled a practical manual of anæsthetics for the use of both the medical and dental professions. It embraces all the anæsthetic agents in general use, and from an examination of the advance sheets it appears to contain in small compass much valuable information, gathered from various sources. The title is alliteratively announced as *The Advantages and Accidents attending Artificial Anæsthesia, being a Manual of Anæsthetic Agents and their Modes of Administration*, with twenty-two illustrations. Among the points considered in regard to these agents are their relative risk, tests of purity, precautions to be observed in their use, and the treatment of asphyxia, concluding with a brief account of the history of artificial anæsthesia. It is announced as nearly ready, by Lindsay and Blakiston.

As aural surgeon to the Jefferson Medical College Hospital, Dr. Turnbull has recently performed his sixth operation of perforation of the mastoid process down to the large cells for the relief of chronic mastoid disease, his first operation being in 1862. The patient in question had been subject for a long period to severe and obstinate attacks of pain in the left ear associated with scarlatinal suppuration of tympanic cavity, and for some time before entering the hospital had been suffering so severely as to require two hypodermic injections of half a grain of morphia daily to give him any relief. No pus was discharged at the time of operation, but the patient was almost immediately relieved by the flow of a red serous fluid. The wound healed without bad symptoms except a slight attack of erysipelas, and the patient returned to his home in Mahanoy City at the end of a month perfectly free from pain. His physician has since written that the relief has been permanent, and that his



mind is now clear, although it was clouded before and his friends feared that he was going insane.<sup>1</sup>

Whether owing to the open winter and exceptionally warm weather or not, we have been suffering for the last two months from a mild epidemic of both scarlet fever and diphtheria which is now happily declining. The deaths from the former have been about sixteen per week, and of diphtheria (including croup) about thirty, until last week, when they dropped to fourteen and fourteen respectively. For the current week they were of scarlet fever twelve, of diphtheria and croup seventeen. W.

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### HYDROPHOBIA.

MR. EDITOR, — In your number for February 7, 1878 (page 181), is an interesting article on Rabies and Hydrophobia. Permit me to call attention to a paper published by me in the *Cincinnati Medical Observer* (vol. i., No. 1, January, 1856, page 22), in which I detail the treatment of eight cases of bites from animals supposed to be rabid, where tincture of iodine was employed, and where no access of disease followed in any one case. I have now treated twenty-five cases in the same way, and not one case of hydrophobia has occurred. I apply the tincture of iodine at once, or at any time after the bite is inflicted for an indefinite period, even after cicatrization is complete, till suppuration is produced and the wound heals by granulation.

In the paper referred to I record eight cases ; seven of them occurred in 1853.

CASE I. (April, 1853.) Several wounds on right hand. Applied tincture of iodine every five minutes for one hour, covering the wounds in the intervals with poultices of elm bark. After the first hour applied the iodine every hour for ten hours, and every four hours for the succeeding twenty-four hours, and ordered a change of poultices every twelve hours till the wounds healed. I saw the patient daily for a week, and occasionally for six months after. No symptoms of hydrophobia had appeared.

CASE II. (April 29th). The bite was not from a *rabid* dog, so far as could be ascertained, but the same treatment was instituted.

CASE III. (June 24th) was also of doubtful character, but the iodine treatment was applied.

CASE IV. (July 4th) was an undoubted case of rabies, and was treated as was Case I. The patient was well two and a half years after.

CASE V. (September 16th) and Cases VI. and VII. (December 10th) were bitten by the same dog.

Case VIII. (June 26, 1854), bitten by a cat.

I have had cases come to me from neighboring States many days after the infliction of the wounds and when cicatrization was complete, and have advised the use of the iodine and poultices till the cicatrices should suppurate. In no case have I heard of the occurrence of hydrophobia.

W. H. MUSSEY, M. D.

CINCINNATI, February 9, 1878.

<sup>1</sup> Case reported in full in *Medical and Surgical Reporter* for February 2, 1878.

## COMPARATIVE MORTALITY-RATES.

	Estimated Pop- ulation, July 1, 1878.	Deaths during week ending Feb. 16, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean of ten Years, '68-77.
New York.	1,093,171	533	25.35	24.32	28.71
Philadelphia.	876,118	329	19.53	18.80	21.54
Brooklyn.	549,438	187	17.69	21.51	25.50
Chicago.	460,000	122	13.79	17.83	22.39
Boston.	375,476	122	16.89	20.10	24.34
Providence.	104,500	43	22.36	18.81	19.20
Lowell.	55,798	21	19.62	19.09	22.50
Worcester.	54,937	20	18.94	21.07	22.30
Cambridge.	53,547	13	12.62	18.69	20.83
Fall River.	53,207	18	17.59	21.35	24.96
Lynn.	35,528	9	13.18	20.42	19.67
Springfield.	33,981	10	15.31	16.04	19.77
Salem.	27,140	8	15.33	20.38	21.15

THE AMERICAN INSTITUTE OF INSTRUCTION will hold its forty-ninth annual meeting among the White Mountains, in New Hampshire. The sessions will be held on Tuesday, Wednesday, Thursday, and Friday, July 9, 10, 11, and 12, 1878. The members will be entertained at the extensive hotels in that section at very low rates of board. Among the houses which will be open to the institute are the Crawford, Fabyan's, Twin Mountain, and Mt. Washington. An extended line of excursions will be planned, and a portion of each day will be devoted to explorations in the Switzerland of America. Railroads will give free return-tickets to members. All persons attending the institute are entitled to its privileges by the payment of one dollar as a membership fee.

THOMAS W. BICKNELL,

BOSTON, February 15, 1878.

President American Institute of Instruction.

OBITUARY. — Professor Albert Smith, M. D., LL. D., of Peterborough, N. H., is dead. He was born in 1801, and graduated from Dartmouth College in 1825. He attended lectures at the New York College of Physicians and Surgeons, and also at the Bowdoin and Dartmouth medical colleges, taking his degree at the latter institution in 1833. From that time until 1838 he was established in his profession at Leominster, Mass., from which place he returned to his native town. He was early successful as a practitioner, and before middle age also acquired a high reputation as a medical scholar and thinker. In 1849 he was appointed professor of materia medica and therapeutics in the Dartmouth Medical College, where he continued to lecture until his resignation in 1870, and from that time until his death he was professor emeritus of the same branch. In 1857 he delivered his course of lectures before the Vermont Medical College, and also the course at the Bowdoin Medical School in 1859.

BOOKS AND PAMPHLETS RECEIVED. — Surgical Treatment of Intra-Uterine Submucous Fibroids. A Case by E. T. Easley, A. M., M. D. Little Rock, Arkansas. (Richmond and Louisville Medical Journal.)

Diseases of the Eye. Ptosis, Mydriasis, Strabismus, Hemiopia. By William Dickinson, M. D. (St. Louis Medical and Surgical Journal.)

American Clinical Lectures. Edited by E. C. Seguin, M. D. Vol. iii. No. 6. The Etiology and Pathology of Chronic Joint-Disease. By Newton M. Shaffer, M. D. New York: G. P. Putnam's Sons. 1877.



# THE BOSTON MEDICAL AND SURGICAL JOURNAL.

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## LITHOTRITY BY A SINGLE OPERATION.<sup>1</sup>

BY HENRY J. BIGELOW, M. D.,

*Professor of Surgery in Harvard University; Surgeon of the Massachusetts General Hospital.*

LITHOTRITE. (Figure 7.) — It would be plainly desirable, if it were easy, to crush the whole stone at once before attempting to evacuate it, but this has hitherto been rarely possible. The lithotrite becomes so choked with impacted débris that the convex surface of the mass less readily receives additional fragments. A clean lithotrite always works to best advantage; and the operator frequently withdraws the loaded instrument, sometimes with injury to the neck of the bladder, to evacuate it. It would be obviously better if the instrument could be emptied at will in the bladder, especially if we distinctly recognize that what can be withdrawn in a lithotrite would come better through a tube, and that the province of the lithotrite should be to pulverize, or indeed merely to comminute, and not to evacuate.

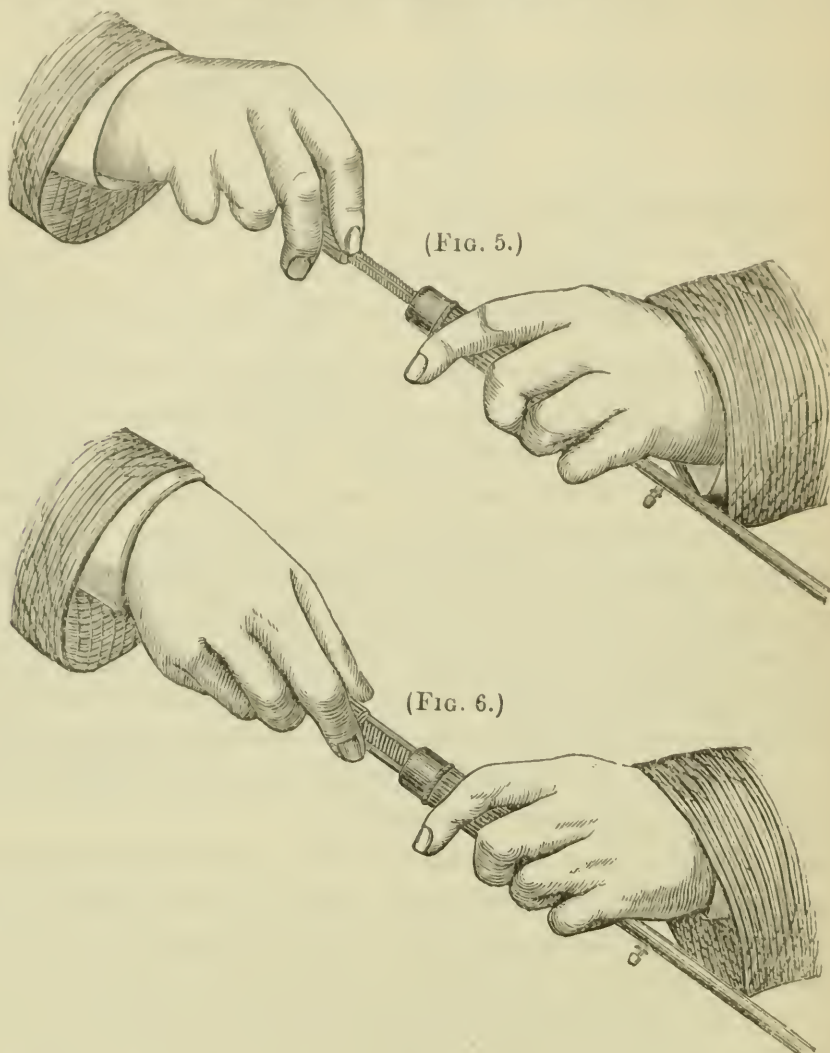
Although all lithotrites are made a little loose for the purpose of working out the débris, and although I have had one constructed with an especial device for this motion, I do not find it easy to clear the concave blade by a lateral movement of the male blade, chiefly because the impaction is so firm that the dense mass, instead of yielding, twists the female blade from side to side. Nor does an instrument like that of Reliquet fulfill the indications. It discharges itself, indeed, as does the old fenestrated "lithoclast." But, as in all lithoclasts, its high sides are an obstacle to the approach of fragments. The male blade also of Reliquet's instrument is that of the lithoclast, and we need only close the blades between the thumb and finger to be satisfied of their scissor-like action upon the bladder.

The instrument about to be described keeps its blades clear and secures certain other desirable ends relating to the injection of water, the lock, handle, etc.

*Lock.* The general acceptance of the cylindrical handle of Thompson's instrument testifies to its convenience as a hold for the left hand. But it is always a little awkward to disengage the thumb of this hand,

<sup>1</sup> Concluded from page 271.

or in fact of either hand, in order to close the lock of a lithotrite at the critical moment of grasping the stone. This objection I have obviated in closing the lock by rotation of the right wrist without displacement of the fingers of either hand. (Figures 5 and 6.)



(FIGS. 5 and 6.) Position of the hands in holding and locking the lithotrite. Figure 5. Lithotrite unlocked. Figure 6. Lithotrite locked by a quarter rotation of the right wrist.

*Wheel.* In a protracted sitting the wheel is an inconvenient handle, its chief merit being that it affords so insecure a grasp that the operator is supposed to be unable, with its prescribed radius, to break the blades. But in a larger instrument these blades are stronger, and a ball may be substituted for the wheel. (Figure 7 a.)

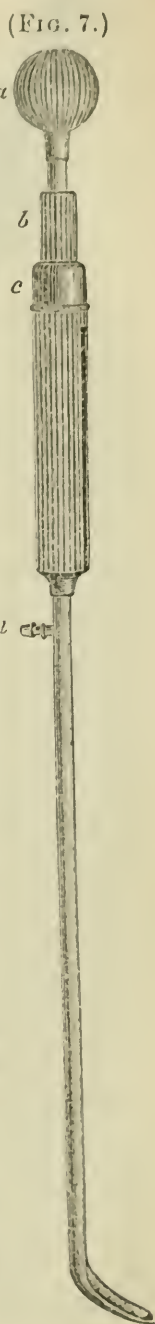
*Injecting tube.* If the sitting be protracted, as proposed, the water dribbles away, and the collapsing bladder, especially if trabeculated, is liable to serious damage from the lithotrite. To meet this difficulty, my lithotrite contains a tube or groove between the blades for the injection of water without removal. (Figure 7, d.) I formerly injected water by means of a short flat tube inserted into the urethra from time to time by the side of the lithotrite.



*Blades.* The blades of this lithotrite consist of a shoe, or female blade, the sides of which are so low that a fragment readily falls or slides upon it; while the male blade, or stamp, offers a series of alternate triangular notches by whose inclined planes the detritus escapes laterally, after being crushed against the floor and rim of the shoe. At the heel of the shoe, where most of the stone is usually comminuted, and where the impact is therefore greatest, the floor is high and discharges itself laterally, while its customary slot (Figure 8 f) is made to work effectively. It may be unnecessary <sup>a</sup> to say that the female blade of the common lithotrite, when drawn from a thin flat plate, as in the French instrument, has a disadvantageous cavity at the heel, where the greatest impaction occurs by gravitation.

One of the dangers of lithotrity, which has been already emphasized, is the liability of the bladder to be nipped in the instrument. In view of the character of many of the instruments sold, we might expect to hear more of this accident, although indeed it is a quiet one. It cannot be too carefully provided against, not only by skill in the operator, but also in the construction of the instrument itself, and especially during a protracted operation, while water is escaping and the bladder collapsing. With this object, the shoe is here wider and longer than is usual, to repel the vesical walls. (Figure 8 f.)

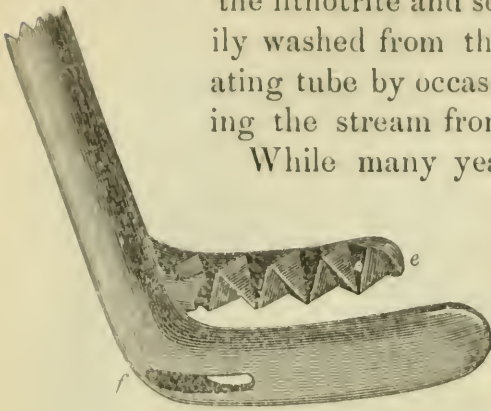
It can hardly be doubted that in practice dexterous operators secure most stones and fragments as they gravitate into the female blade while it depresses the floor of the bladder, perhaps a little to one side or the other, where the stone is felt. A similar and efficient manœuvre, especially for a small fragment, is that of opening the blades of the lithotrite widely in the vertical position, then slowly turning them to one side and closing them along the floor of the bladder. If, in attempting this, the instrument be opened after it is turned, the male blade displaces the fragment without securing it; and it is of course understood that in opening the lithotrite the blade in contact with the bladder, commonly the female blade, is stationary. The inverted lithotrite works efficiently in a depression if the bladder be kept out of harm's way by a special device; but with the common



(FIG. 7.) Lithotrite by Collin & Cie., from a working model. *a.* Ball which turns the screw. *b.* Revolving cylinder-handle attached to the screw-guard, which also revolves. This guard consists of two square or T-shaped rods. They slide through notches in the cap of the lock. By their revolution the cylinder-handle turns the cap and operates upon the lock. *c.* Cap of the lock, which by its revolution wedges up the screws. *d.* Injecting pipe communicating with the blades.

lithotrite it is important to turn the blades up before crushing, and move them, in order to be sure they are free. In the exceptional case of a stone behind the prostate, it may be necessary to invert the lithotrite and seek it. Fragments, however, are readily washed from this region within reach of the evacuating tube by occasionally turning the orifice and directing the stream from the tube upon them.

(FIG. 8.)



(FIG. 8.) *e.* Male blade, presenting, on alternate sides, triangular notches. The small portion of debris not discharged laterally by these notches is driven through the slot in the female blade. *f.* Slot in the female blade.

While many years ago I had not unfrequently prolonged lithotripsy to ten or fifteen minutes, and longer, it is only within two years that I have aimed at the evacuation of a considerable stone during a single sitting; and although long experience will perhaps be necessary to determine precisely what cases are unfavorable to such an operation, there can now be no question that it is practicable to remove at once a far greater quantity of debris than has hitherto been considered possible. The conditions most favorable to lithotripsy are obviously most favorable to this modification of it,—a stone neither very large nor hard, and especially a large urethra, promising its best results. But if the preceding views are correct the future of lithotripsy lies in the direction of a fast-working lithotrite, which, while it effectually protects the bladder, is more powerful than the usual instrument, and better proportioned to the work it is to do,—a rapid comminution of the stone,—its immediate and complete evacuation by means of a large tube with an efficient orifice, while the fragments are at will scattered or gathered, for aspiration,—and the ready recognition and removal of any obstruction which delays the process. It will be no longer essential to pulverize the stone, but only to comminute it; and if, in so doing, the lithotrite can be kept free from impaction, the process will be more rapid and efficient.

During the last year I removed by lithotomy two soft stones, weighing 1272 and 1230 grains, from two male adults aged forty and twenty-four years respectively, who recovered after various risks. I now cannot but think that with a tolerably sound bladder, a urethra of good size, a large lithotrite, and a large tube, the operation could have been performed with less risk by lithotripsy.

We get a useful view of the interior of the bladder by examining it in position through an opening in its summit. This part of the organ, with the free and thin posterior wall, is mainly concerned in distention. The floor of the bladder is comparatively firm and flat, and, if the sub-



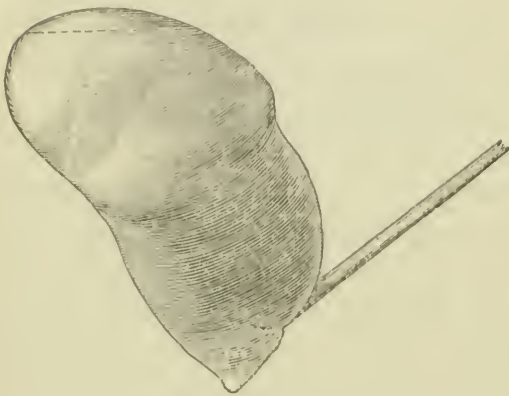
ject be in good condition, adheres to a thick mass of cellular tissue in and near the ischio-rectal fossæ, upon which it rests. This mass is traversed by the rectum variously distended; and this canal, in a thin subject, may be advantageously filled with air during an operation, to facilitate its indentation by an instrument, — reversing, for the operation of lithotrity, one of the precepts of lithotomy.

The sigmoid flexure is largely concerned in compressing the bladder behind. The posterior wall of this viscus may be so crowded by the intestines that it becomes flat, or even concave. A horizontal section of the bladder is then transversely oval, flattened between the intestines behind and the pubes in front, each of these indenting it. A well-filled or tense abdomen tends so to shorten the antero-posterior diameter of the bladder that, while a large stone may gravitate backward into that part of the bladder which is compressed by the intestines, carrying the thin wall with it, it is not so with a small fragment, which, unless the floor be artificially depressed, may lie on one side or the other of the vesical orifice more readily than at a considerable distance behind it. So, in sounding with a curved sound, it may sometimes be a little difficult to move the instrument back and forth in the urethra when its extremity may be readily turned down upon the floor of the bladder on either side. It is seen also (see Figures 9 to 13), as a result of this conformation, that a lithotrite or straight tube, standing at an angle of forty-five degrees with the recumbent body, abruptly buries its extremity in the floor of the bladder near the foot of the posterior wall, which then becomes more upright, and does not lie upon the centre of an extended concave surface, as is sometimes represented. The deep pit at the extremity of the straight tube, and the similar depression made further forward by the curved and inverted tube (see Figures 9 and 10) show how readily fragments can be made to gravitate to the lithotrite, or to the tube orifice, provided the latter be not plugged by the mucous membrane. The curved tube, when inverted, rests on the adherent floor; but the straight tube, bearing upon the free and thin posterior wall (Figure 10), should not be urged too forcibly against it. In either case the nearer the instrument approaches a vertical position the deeper will be the indentation. A pit of this sort, formed in the elastic floor by an almost insensible pressure of the instrument, explains the observation of Thompson, that when a fragment is caught by the lithotrite many more are likely to be caught, like fish, in the same place. A central indentation of the floor also explains how, in certain cases of large stone, a lithotrite or sound may be passed back and forth beneath it without touching it, unless the beak is tilted up. The stone may then seem to adhere to the upper wall of the bladder, and to be suspended from it.

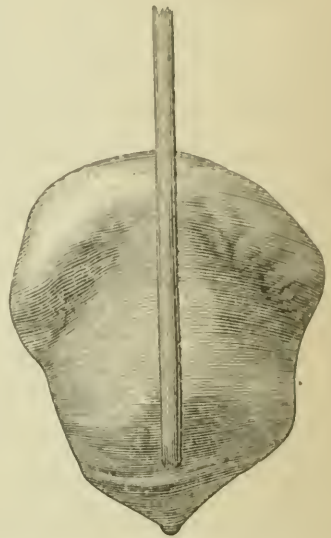
NOTE. — The lithotrite and the evacuating apparatus are manufactured by Tiemann & Co., New York.

(FIGS. 9 to 13.) Plaster casts of bladders variously distended, and holding instruments, to show the effect of a slight pressure in indenting the floor of the bladder, in order to facilitate the approach of fragments. The dotted line near the summit of each represents the level of an air cavity, which makes it possible to place the cast in the exact position it occupied in the horizontal subject.

(FIG. 9.)

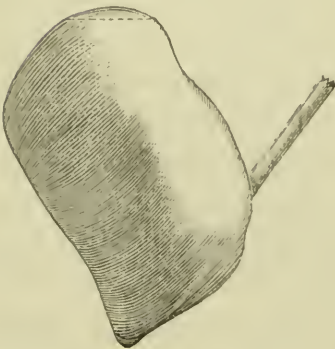


(FIG. 9a.)

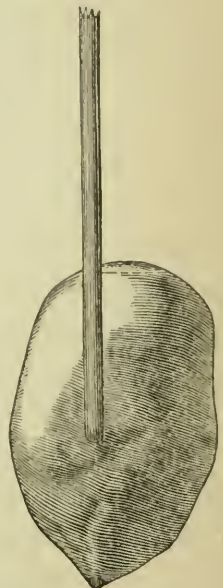


(FIGS. 9 and 9a.) Side and front view of a distended bladder of singular symmetry. The original suggests the torso of a Silenus, the pectoral pouches overhanging the pubes; the abdomen beneath the symphysis; while the hollow loins were cushioned on the sigmoid flexure which indented them. The extremity of a curved tube is seen below, at the apex of an inverted tunnel, and just above it a trace of the vesical valve.

(FIG. 10.)



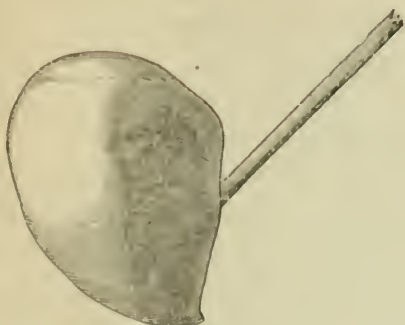
(FIG. 10a.)



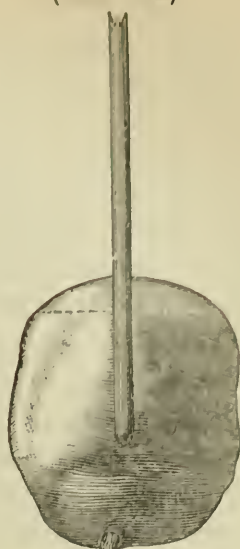
(FIGS. 10 and 10a.) A less distended bladder containing a straight tube which indents the posterior wall.



(FIG. 11.)

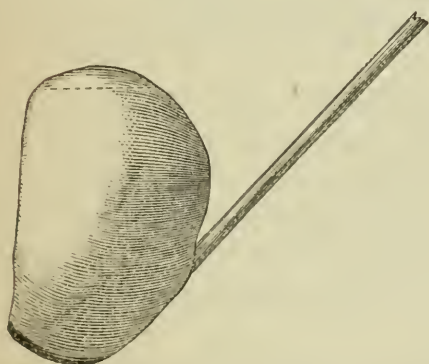


(FIG. 11a.)

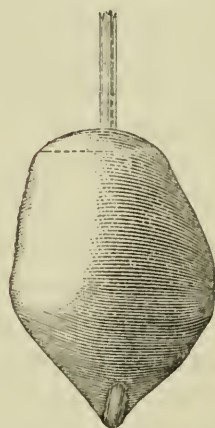


(FIGS. 11 and 11a.) A bladder with a curved tube brought forward behind the prostate, slightly indenting the floor.

(FIG. 12.)

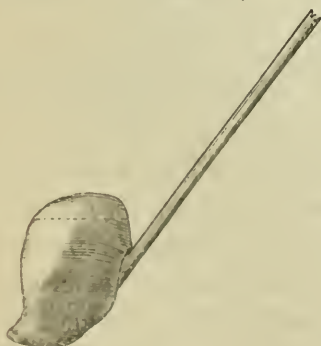


(FIG. 12a.)



(FIGS. 12 and 12a.) A bladder containing a large lithotrite, which has so depressed the floor that the posterior wall rises perpendicularly.

(FIG. 13.)



(FIG. 13a.)



(FIGS. 13 and 13a.) A bladder with a very small injection, imprisoning a lithotrite.

## CASES.

CASE I. December 14, 1875. Age, sixty-four. Date of symptoms, six years. Two or three stones, measuring from half an inch to more than three quarters. Three sittings. First sitting: no fragments were removed through a tube. Second sitting: interval, seven days; duration, forty-five minutes, under ether; quantity removed, "a large mass of fragments;" size of tube, twenty-seven. Third sitting: interval, twelve days; quantity removed, "a few fragments." Result: the patient was discharged, well, one week after.

CASE II. May 15, 1876. Age, sixty. Date of symptoms, twenty years. Two stones, of one and a quarter inches and three quarters of an inch diameter, respectively. One sitting: duration, one hour and a half, under ether; lithotrite introduced three times; quantity removed, one hundred and sixty-seven grains; size of tube, twenty-nine; there was afterwards a slight cystitis; no fragments were passed; in two weeks the patient was again sounded, and no fragments were found. Result: discharged, well.

CASE III. August 6, 1876. Age, sixty-two. Date of symptoms, eighteen months. Several stones, none larger than three quarters of an inch. The patient was confined to the house, in great pain, drawing his water every half hour or less. The prostate was unusually large. One sitting: duration, about one hour and three quarters, under ether; size of tube, twenty-nine. He afterwards passed a few grains of sand only. Result: no unfavorable symptoms; almost entire relief from pain. Later, no difficulty in retaining water, but continues to pass catheter; gained flesh and former health, and resumed avocation.

CASE IV. December 14, 1876. Age, sixty-six. Date of symptoms, two years. Single stone. One sitting: duration, about an hour, under ether; quantity removed, one hundred and eleven grains; size of tube, twenty-eight. Result: the patient did well for two days; then there was a chill, with higher temperature; pain in the back, and pain referred to the left hip; a gradually failing pulse; moderate meteorism, with but little tenderness; death on the sixth day. An autopsy was not permitted.

CASE V. January 8, 1877. Age, fifty-five. Date of symptoms, one year. Single stone. "A severe chill followed the primary examination." Seven days after, the meatus was incised and enlarged from 28 to 31 Charrière. One sitting: diameter of stone, ten to twenty millimetres; duration, one hour, under ether; size of tube, thirty-one. Result: no sand nor fragments were afterwards passed; nor were there any subsequent symptoms.

CASE VI. April 21, 1877. Age, forty-three. Single stone with bone. Five years ago the pelvis of this patient was crushed. Sinuses, discharging dead bone, opened on both hips. Six months after the injury, symptoms of stone existed. One sitting: duration, one hour and a half, under ether; meatus incised; size of tube, thirty; quantity removed, sixty-six grains, and also three small pieces of bone, doubtless nuclei, one of which was incrustated. An indurated spot was detected by the tube, where the bladder seemed to adhere to the pelvis. Four days after, under ether, the lithotrite brought away with difficulty, through the urethra, a square scale of bone too elastic to be broken, measuring five eighths of an inch by seven sixteenths, but neither sand nor



fragments. Result: there were no unpleasant symptoms at any time; and after another careful examination for bone the patient was discharged, well.

CASE VII. (Dr. T. B. Curtis's case.) March 6, 1877. Age, fifty-four. Date of symptoms, two years. Single stone. One sitting: diameter of stone, one inch and a quarter; duration, one hour and twenty-five minutes, under ether; lithotrite introduced three times; size of tube, thirty-one; quantity removed, when dry, two hundred and fifty-seven grains; the six largest fragments weighed together twenty-four grains; the strained urine yielded during the next week two and one-half grains. Result: rapid recovery, with no subsequent symptoms.

CASE VIII. (Dr. C. B. Porter's case.) August 19, 1877. Age, sixty-one. A large, flabby man, with a feeble pulse. Date of symptoms, twenty-six years. Two stones, one of which is so large that it is barely possible to lock the lithotrite. Passes water every fifteen or twenty minutes. Three sittings. First sitting: duration, one hour and a half, under ether; size of tube, twenty-eight; quantity removed, two hundred and twenty-eight grains; passed afterwards one hundred and eight grains. Second sitting: interval, four days; duration, three hours, under ether; size of tube, thirty; quantity removed, seven hundred and forty-four grains; passed afterwards sixteen grains. No after symptoms of importance. Third sitting: interval, five days; duration, three and three quarters hours, under ether; size of tube, thirty-one; quantity removed, seven hundred and six grains; no pain nor discomfort afterwards; total number of grains, after drying, one thousand eight hundred and two. Result: discharged, well, two weeks from the date of the first operation. After a few weeks the patient could retain his water from three to four hours.

REMARKS. — The details of the earlier of these operations are expressed with less exactness than I might now desire, but were dictated by myself at the time, and are within the fact, as to the duration of each operation, and the size of the stones. The cases, all of soft stones, *i. e.*, not oxalate of lime, are the only ones by which the method which is the subject of this paper has been tested. As statistics they are not so numerous as to have importance. But they abundantly illustrate what this operation is able to accomplish in removing at once a large quantity of stone by the urethra. The fatal case, without an autopsy, the absence of which is greatly to be regretted, must pass for what it is worth. The other cases demonstrate a tolerance by the bladder of protracted manipulation which has not hitherto been recognized.

## LECTURES.

THE SYMPTOMS AND TREATMENT OF POST-PARTUM HÆMORRHAGE.<sup>1</sup>

BY R. A. F. PENROSE, M. D.,

*Professor of Obstetrics in the University of Pennsylvania.*

THE great accident of the third stage of labor is post-partum hæmorrhage. This accident differs from the others which we have just been studying in that it gives the attending physician no time to send for advice, in that it comes on suddenly, pursues a rapid course, and, unless speedily checked, has an invariably fatal termination. Unless the physician, therefore, be well armed and thoroughly able to treat this condition promptly the patient will quickly slip from his grasp. After a healthy labor the uterus rapidly contracts and becomes exceedingly small. Nature ligates all the torn vessels with living fibres; then, and not until then, is the woman safe.

The great cause of post-partum hæmorrhage is uterine inertia. To go more into particulars, however, the causes of this accident may be divided in general into two, — the *predisposing* and the *exciting* causes.

Under the first head we may have any one or more of three conditions: (1) plethora, (2) anæmia, and (3) habit, that is, the occurrence of hæmorrhages at former labors. Among the exciting causes may be mentioned: (1.) The exhaustion consequent upon a prolonged labor. The woman's general and local nervous system has been worn out, and there is not enough nerve force left in the womb to produce proper contraction. (2.) Too rapid a labor. The very worst cases are likely to happen where the labor has been too rapid, for in such instances as these the cavity of the womb is emptied in so short a time that the muscular fibres are left stupefied, benumbed, and without any ability to contract. (3.) Excessive distention of the uterus by liquor amnii or by twins. The rationale of this cause is very evident.

When any of these predisposing or exciting causes act singly no hæmorrhage is likely to take place; but where there exists both a predisposing and an exciting cause hæmorrhage is exceedingly liable to occur, unless the proper steps be taken in season to prevent it.

Post-partum hæmorrhage may come on immediately after the birth of the child, or it may be delayed in its appearance for several hours, days, or even weeks.

What is the prognosis? In general, and particularly among skillful practitioners, hæmorrhage very rarely happens, and when it does is speedily cured.

The symptoms of the hæmorrhage may be divided into constitutional

<sup>1</sup> Reported for The Boston Medical and Surgical Journal.



and local. Among constitutional symptoms may be enumerated feeble pulse, dimness of vision, syncope, ghastly pallor, and one special sign which I think is almost pathognomonic, namely, *dreadful gaping*. When you see this in a woman who has just been delivered, together with pallor and syncope, you may be sure that something serious is the matter. The local signs may be divided into external and internal. The external signs are the gush of blood from the vagina; the internal, the existence of an inert and flabby uterus, as shown by abdominal palpation and manual examination. I would particularly call your attention to the fact that the hæmorrhage may be entirely concealed by various chances, such as the too close application of a napkin to the vulva or a placenta plugging up the mouth of the uterus. In such a case the only means of diagnosis you will have will be the constitutional symptoms and the enlarged and flabby uterus.

The management of post-partum hæmorrhage resolves itself into preventive and curative treatment. Let us see how nature prevents its occurrence. First, by all the causes which irritate the inner surface of the uterus, os uteri, and vagina, such as the presence of the child and of the placenta, the introduction of the hand of the accoucheur, etc., etc. Then there is the pressure exerted by the abdominal muscles and by the hand of the medical man; the reflex stimulus to contraction set up by the application of the child to the breast, by the sensation of the rush of milk to the breast, by the sympathy existing between the womb and the stomach, as excited by the internal administration of a glass of ice-water or lumps of ice.

What are the means by which the physician is enabled to prevent the occurrence of hæmorrhage? He must bear in mind the predisposing and exciting causes. If the woman is plethoric and has bled profusely at former labors, saline purgatives and diuretics should be employed, and she should be kept upon a low diet for some time previous to confinement. If there is marked anæmia, advise the liberal use of iron, bitters, stimulus, and plenty of good, nourishing food. Try, too, to obviate any of the exciting causes that may be present. If the labor prove long and tedious, hasten it by the careful and skillful use of the forceps. If, on the other hand, the labor be too rapid and the uterus is emptying itself too soon, try to make the labor slower by anæsthetics and all the means in your power. As soon as the body of the child is expelled do your best to secure immediate contraction. To this end ergot must be freely given, and all the external means of causing contraction brought to bear upon the case.

So much for the preventive treatment. What is the nature of the curative treatment? In every case the first indication is to see at once that the placenta be removed. If it be only partially separated from its attachments very grave hæmorrhage may ensue. If the bleed-

ing persists after the placenta has been expelled, you must administer large doses of ergot, — as much as one fluid drachm of the fluid extract every fifteen minutes. Where the stomach will not bear the ergot in such quantities give it hypodermically. Then you should at once apply extra-uterine stimuli; place one hand in the cavity of the uterus, and with the other make firm pressure over the abdomen. You thus employ a double stimulus to contraction.

The above measures generally suffice to cause prompt contraction. But suppose the uterus does not respond. Now what are you to do? Make a cold application. Cold acts in two ways: it promotes uterine contraction (1) by depressing the circulation, and (2) by its reflex action upon the nerve centres. If your cold towels do not act at once they will not act at all, so do not keep them upon the abdomen for more than five minutes. A better way, perhaps, of applying cold than by the wet cloths is to take a piece of ice the size of a walnut, and carry it right up into the cavity of the womb. At the same time you may keep up external pressure with your other hand upon the abdomen, or you may use ice externally. In some cases it may be well to inject cold water into the vagina and rectum. Dr. Marshall Hall advises pouring a stream of cold water from a considerable height upon the abdomen. The shock of such a procedure would of course be likely to bring on contraction, but I object to such rough measures. There is great danger of serious sickness arising from the exposure of the woman and her contact with the wet bed and wet garments.

Suppose, however, that the patient still bleeds in spite of you. The womb is so benumbed and paralyzed that it obstinately refuses to respond. Have you reached the end of your rope, and must you now give up the case as hopeless? Not by any means. At this juncture some obstetricians are in the habit of advising the use of alcohol, turpentine, and the per-salts of iron. All very good, but there is no need for such ferocious remedies as yet. They are far too likely to be followed by serious endometritis. I have no doubt that if on the same principle you placed an ivory speculum in the vagina and inserted through it the tip end of a red-hot poker into the relaxed womb, — I have no doubt, I say, that the immediate results would be most admirable. The womb would contract, of course, but you would kill your patient.

There is a very powerful and much less dangerous remedy than all the above-mentioned agents to be found in the shape of vinegar. Call for a teacupful of vinegar, dip your handkerchief or a bit of rag into it, carry it up into the uterus, and squeeze it out there. This remedy has never yet failed me. Where, perchance, there is no vinegar to be had, get a lemon, pare off the rind, make a number of deep gashes in it, carry it up into the inert womb, and squeeze it.

Still the bleeding goes on. Now I am going to imagine the worst



possible case, in which all previously suggested remedies have utterly failed. What now? If you wish you may try the per-salt of iron, but remember I do not advise it. Why not tampon the vagina? you will say. Let us cram the vagina full of pieces of rag. Not a drop of blood escapes. Do not be too sanguine. You have only converted the open into a concealed hæmorrhage, — a much more dangerous condition. Do not by any means use a tampon, therefore, but institute compression of the large vessels at the posterior part of the abdominal cavity — the ascending vena cava and the descending aorta; thus you will prevent both the accession and regurgitation of blood. Pressure upon the aorta also tends to keep the blood in the medulla oblongata. You may give with benefit at this time a good dose of opium, fifty drops of laudanum by the mouth, or from one eighth to one fourth of a grain of morphia hypodermically. Opium acts as a nervine and cerebral tonic, invigorating the nerve centres which preside over uterine contraction. In giving opium by the mouth select laudanum as the most stimulating preparation of the drug.

One of my medical friends tells me that he has had most excellent results in bad cases from the administration of a lump of sugar soaked in oil of turpentine. This, of course, acts as an arterial stimulant. Another friend has worked wonders by the use of a hot infusion (two drachms to half a pint) of capsicum, giving from one to two tablespoonfuls every fifteen or twenty minutes. In some desperate cases the galvanic battery may do good, passing the current from the lumbar and sacral nerve centres to the fundus and mouth of the uterus. Where everything else has failed, the transfusion of blood may be tried. Transfusion, however, is indicated rather where the hæmorrhage has been checked and the patient is bloodless and exhausted.

When the hæmorrhage is once checked, place your patient on the following treatment: Give ergot freely. Apply a tight binder over the lower part of the abdomen, — this lessens the flow of blood through the parts. Place a napkin just below the vulva to give notice of the least return of the bleeding. Have the patient's head low down on the bed by removing pillow and bolster. If there be a marked disposition to faintness elevate the feet. The patient, during convalescence, will need nervous and arterial stimulants, and good, nourishing food. To stimulate the circulation you may order either laudanum in doses of fifty drops once or twice daily, or morphia hypodermically. Alcohol may also be given either in water or milk. The nerves must be toned up by Hoffmann's anodyne and sweet spirits of nitre. Then the woman wants strong food, and after great hæmorrhage the proper food to give is saline food; animal broths with plenty of salt. In addition to this milk should be administered freely. The rest of the treatment consists in watching the patient carefully and keeping her quiet. A woman

may be anæmic for a long time after great loss of blood. In such cases tonics are demanded: the pyrophosphate, the sulphate, and the perchloride of iron, the syrup of the hypophosphites, small doses of arsenic and strychnia, with plenty of fresh air and sunlight.

Post-partum hæmorrhage may be due to other causes, such as laceration of the perinæum, vagina, or cervix uteri. One of my friends told me of a very interesting case following laceration of the perinæum, in which a large branch of the perineal artery had been ruptured. Of course the proper preventive treatment there would have been to have watched carefully the distended structure, and so to have prevented the accident. When the laceration has occurred the only thing, of course, is to ligate the artery at once.

The presence of a uterine polypus or tumor very often causes hæmorrhage. In these cases we may have to resort to the use of the persalt of iron to stop the bleeding. I have, however, been very successful with ergot.

I once saw hæmorrhage caused by an enormously distended bladder from which I drew off two quarts of urine. Of course the hæmorrhage at once ceased, and the uterus contracted. Last year I had a case caused by too rough handling of the patient by the nurse, causing sudden congestion of the uterus. I treated this case by opium, vinegar to the congested womb, and leeches over the lower part of the abdomen.

Again, only a short time since, I was called to a case occurring fully six weeks after the birth of the child. I searched very carefully, and could discover no cause for the bleeding. Upon close questioning the woman said that her husband had had connection with her that morning. Here the irritation of the act of copulation had brought on sudden congestion of the womb. I gave opium and ergot, and applied alum water to the vagina.

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### THREE CASES IN PRIVATE PRACTICE.

BY C. B. NICHOLS, M. D.

*Rupture of the Heart.* — E. J., aged seventy-four, a farmer, who had always been a healthy, hard-working man, was plowing, and in lifting the plow around at the end of the furrow felt a sudden sharp pain over the region of the heart, from which he became faint. He gave up his work and walked to his home, a short distance. The next day, the pain not having disappeared, I was called, and found the patient in bed, lying upon his back, breathing easily, pulse irregular and intermittent, ranging from 70 to 80 per minute, tongue clean, bowels regular, appetite good. There was pain over the region of heart in taking a long breath or moving. A well-marked arcus senilis was observed. At my second visit the next day I found him sitting up, feeling nicely, the pain entirely gone.



On the third day I was suddenly summoned, and upon my arrival his *widow* stated to me the following: Mr. J. arose in the morning in good condition. It being Sunday he shaved himself, and took a walk in the garden for a short time. He had had no pain since the night of the first day. During the middle of the day he went to the water-closet, and as he was gone some time she became anxious and sent one of the children for him, who found him lying dead upon the floor.

*Autopsy*, twenty-four hours after death. Lungs healthy. Old adhesions of pleura. No signs of recent inflammation in pleura or pericardium. Pericardium fully distended with blood. Upon removing the heart, a rupture large enough to admit my little finger was found at the upper and middle portion of the left ventricle; the walls of the heart were flabby and soft, very pale, and easily lacerated. Liver pale and soft. Other organs normal.

*Rupture of the Heart.* — S. D., aged forty-three, overseer in woolen factory, for a few days had had a bad cold. During the night of November 6, 1875, he was taken with very severe pain two inches above the left nipple. He applied a mustard paste, and took "something hot," and in a short time felt easier. He breakfasted, and went to business as usual. About ten A. M., in attempting to throw a web of cloth from his shoulder, he fell backwards upon the floor, and when I arrived, fifteen minutes afterwards, I found him dead, not having spoken or moved.

*Autopsy*, twenty-four hours after death. Rigor mortis well marked. Brain healthy. Old pleuritic adhesions. Pericardium distended. Signs of inflammation along the course of the aorta from the origin up over the arch. There was a rupture of the right ventricle the size of a goose-quill. At the point of rupture there was a melanotic deposit about the size of a pea, and around this point there were signs of recent ulceration. There were five other points of deposits of melanotic matter about the heart and the arch of the aorta. On the internal surface of the aorta, covering a space of about two inches in the arch, was a scale-like deposit of cretaceous matter rendering the vessel stiff to the touch. Scattered throughout both lungs there were innumerable points of melanotic matter about the size of a millet seed, rendering them of a dark, somewhat grayish color. All the other organs were healthy.

*Rupture of the Uterus.* — I was summoned to attend Mrs. A. during confinement. Upon arriving there I found that a "doctor" had been in attendance some thirty-six hours. Mrs. A. was of English descent, fifty-one years old, and had had nine children.

Upon entering the room I found the patient *in articulo mortis*, and from the husband and attendant obtained the following history: For the first twelve hours her labor pains were rather light, and after trying the effect of walking and several positions to assist in the descent of the child, it was discovered that the cord had presented at the vulva.

The previous attendant not deeming this of any advantage to the case it was cut as short as possible, and each end was tied, after which the patient was allowed a few hours' sleep, and then exercise and position were again resorted to with better success than before. This time a hand and arm presented themselves and demanded exit, but the attendant, preferring not to accept of such a small portion of a presumably good-sized child, made several ineffectual attempts to "shove" the offending arm back. Not being able to accomplish this the arm and some portions of the vagina were amputated, the arm at the elbow, and the vagina in small lacerated pieces. After this there was a hæmorrhage sufficient to saturate the bedding and run down on to the floor. The husband, becoming anxious in regard to the safety of the child, suggested a consultation, and I was sent for. It being some sixteen miles I did not arrive until the patient was nearly dead. Under these circumstances I refused to make any attempt at delivery, as the child had been dead for some time, and the mother was nearly so. The vagina was badly swollen, the patient was pulseless and cold, and a few moments closed the scene.

After waiting a proper length of time I made a post-mortem examination. Upon opening the abdomen the back and nates of the child presented, and farther examination showed a rupture of the uterus from fundus to neck. There was a small quantity of blood in the pelvic cavity, and the walls of the vagina were lacerated in several places.

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## RECENT PROGRESS IN ANATOMY.

BY THOMAS DWIGHT, M. D.

*Methods.* — Carrière<sup>1</sup> describes the methods by which he has been remarkably successful in finding anastomoses between the processes of the large nerve cells of the anterior horns of the spinal cord. His figures are so convincing that we must believe that it is through imperfection of method that their frequency is not more generally recognized, unless, indeed, as is not impossible, they are more frequent in the young than in the adult animal. He took the fresh cord of a calf four weeks old and cut it into small pieces, some of which he put into a bichromate of potash solution of one to six hundred, and others into a solution of the same strength of chromate of ammonium. After ten days he removed the pieces from the first solution, washed them, and put them in the usual carmine solution. In five days more they were ready for use. Those in the second solution were left there for two weeks, and then similarly treated, but they required only three days in the carmine to become sufficiently soft. He then separated the anterior horns from

<sup>1</sup> Archiv für mikroskopische Anatomie, Band xiv., Heft 2.



their surroundings, took very minute pieces of them, and under a dissecting microscope picked them to pieces; and if with a power of sixty diameters the appearance was satisfactory he put on a covering glass, then treating them successively with alcohol, oil of cloves, and Canada balsam dissolved in chloroform.

Busch,<sup>1</sup> instead of the usual fluids for softening bone for microscopic examination, recommends pure nitric acid diluted with ten volumes of water, for adult bone. For young bones it should be diluted to one per cent., and for fetal bones be made even weaker. The fluid should be changed every day, and in eight or ten days the effect is obtained. As soon as this occurs the bone should be washed thoroughly in running water, and then put in strong alcohol. Busch advises that it should be in the alcohol for two or three days before being put into the acid. He finds nitric acid less likely to cause swelling of the tissues than hydrochloric. Chromic acid causes shrinking, and picric acid is inefficient except for very small pieces.

Some interest has been awakened by the papers of Arthur Boettcher,<sup>2</sup> in which he claims, by treating mammalian blood in some instances with alcohol and acetic acid, and in others with a saturated alcoholic solution of corrosive sublimate, to have demonstrated a nucleus. We have been rather surprised at the notice the papers have attracted, as it is well known that various reagents will cause most striking changes in blood corpuscles, and as it is quite unphilosophical to suppose that the changed corpuscle is more worthy of credit than the normal one. Dr. A. von Brunn<sup>3</sup> shows that these appearances are artificial effects, and we commend the paper to such as require to be convinced of so evident a fact.

*Nerve Fibres.* — Franz Boll,<sup>4</sup> now professor at Rome, has written a paper on the medullated nerve fibre, which is worthy of attention. There is something to criticise in the arrogant style in which he speaks of other observers, which is not particularly becoming in the discoverer of the "elastic stripe" of connective-tissue corpuscles. He examined the nerve fibres of a frog in various reagents, and watched the different phases which the nerve presented after various degrees of action. His conclusions, somewhat condensed, are that the axis cylinder, when fresh, is fluid, or at least semifluid, and, therefore, during life cannot be composed of fibrillæ, according to the views of some observers. He holds that the fluid axis cylinder is surrounded by a very delicate sheath, separating it from the white substance. He finds support for this in the appearance of drops coming from the end of the axis cylinder after treatment with distilled water. Of the white substance, Boll says it does

<sup>1</sup> Archiv für mikroskopische Anatomie, Band xiv., Heft 4.

<sup>2</sup> Memoirs of the Academy of St. Petersburg, seventh series, vol. xxii., No. 11, and Archiv für mikroskopische Anatomie, Band xiv., Heft 1.

<sup>3</sup> Ditto, Band xiv., Heft 3.

<sup>4</sup> Archiv für Anatomie und Entwicklungsgeschichte, 1877, Heft 4 and 5.

not pass uninterruptedly from one of Ranvier's constrictions to another, but is divided into a number of segments which Lantermann and others have described. These are affected so variously by reagents that Boll, if we understand him correctly, is inclined to deny that this is the normal state of affairs. He has nothing special to say of the enveloping primitive sheath, except that, so far from being interrupted at Ranvier's constrictions, it is somewhat stronger there. We are disposed to agree with these conclusions in the main, though we confess to a doubt whether the axis cylinder itself is during life distinct from the white substance. It is certainly remarkable that it is seen only after death.

*Ganglia of the Heart.* — J. Dogiel<sup>1</sup> has studied the distribution of ganglion cells in the heart of man and many animals, and denies that they are found in the substance of the organ, as is often stated. They are most plenty around the terminations of the great veins and in the auriculo-ventricular furrow. They are found among the fibres of the cardiac nerves, but no strict connection between the two has been discovered. We will quote the author's remarks concerning the spiral fibre of ganglion cells, merely observing that we are not convinced of their correctness: "Although many ganglion cells seem to be apolar, I am, nevertheless, convinced that almost all those of the frog's heart have a straight process that is directly developed from the protoplasm of the cell, and consists of a bundle of nerve fibres. As to the spiral processes, they have no existence, in spite of the opposite opinion of many experienced histologists; and though spiral fibres are to be seen in some preparations, they are merely folds of the connective-tissue capsule, which extends over the process." He thinks that these folds are caused by the acetic acid used in the preparation.

*Structure of the Thymus.* — Dr. Afanassiew, of St. Petersburg, has published two papers on this subject.<sup>2</sup> The first treats only of the concentric bodies; the second is more general. The organ is found in the five vertebrate classes, and its existence, according to our author, is doubtful only among the osseous fishes. It may consist of a cervical and thoracic portion, but in man we find only the latter. Its size in the child, as well as its shape, is subject to great variations. There can be no doubt that its structure is essentially that of a lymphatic organ, but its early atrophy is remarkable. The concentric bodies, as they are called, have been noticed to lie in close connection with blood-vessels, but Afanassiew is, we believe, the first to show how extremely close that connection is. They begin, in fact, from a growth of the endothelial cells, which encroach on the lumen of the vessel, and by proliferation give origin to the small cells that form the greater part of the corpuscle. Altered blood disks have been found in their centre

<sup>1</sup> Archiv für mikroskopische Anatomie, Band xiv., Heft 4.

<sup>2</sup> Ditto, Heft 1 and 3.



by previous observers. The appearance of these bodies, of course, implies a beginning of the decrease of the organ, or at least of that part of it in which they occur; and it is worthy of notice that some of them are seen in organs which we may say certainly have not attained their full size. This simply shows that some parts may begin to waste while the thymus as a whole is still growing. In time the corpuscles themselves degenerate. "After the contents have passed through a fatty or colloid metamorphosis there remains in some corpuscles a homogeneous mass, with a dull or almost opalescent shine, and in others fat globules of various size and highly refractive. Moreover, among the contents are found heaps of pigment and altered red blood corpuscles." In consequence of the formation of these bodies, or perhaps from the same cause, disturbances of the circulation occur, as a result of which many red and white corpuscles leave the vessels and a growth of connective tissue begins, which is accompanied with the appearance of pigment. The lymphatic elements are compressed by the new growth, and in time fatty granules appear among them, and the degeneration is soon complete. In some animals the growth of connective tissue, in others the formation of pigment, is the prevalent phenomenon.

(To be concluded.)

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## PROCEEDINGS OF THE HAMPDEN DISTRICT MEDICAL SOCIETY.

F. W. CHAPIN, M. D., SECRETARY.

JANUARY 15, 1878. *Obscure Forms of Liver Disease.* — Dr. George S. Stebbins read a paper on *Obscure Forms of Liver Disease*, and illustrated his remarks with the following histories of two cases that had come under his observation: —

Case I. was that of a married lady, aged thirty-five, who was taken suddenly with flowing, September 18th, followed by abortion the next day. Nothing unusual occurred until the 22d, when she was seized with violent pain in the epigastric region, the pain extending through to the back and up into the thorax, attended with chills and a cyanotic hue of the skin. The physician then in attendance pronounced the case to be congestion of the liver, and the fever, of three or four weeks' duration, which followed, he styled at first bilious and later typhoid. Seeking for the real cause of the pain, the medical attendant placed his hand behind the right hypochondriac region, and announced to the patient that he had found the cause to be enlargement of the liver, as he could sensibly feel it. He applied a fly-blister to the posterior surface, and followed it with two others in as many weeks. Up to this time there had been no pain nor tenderness at this point or elsewhere; no icterus.

Within twenty-four hours after the first blister was applied deep-seated pain ensued, followed by intense jaundice. There has ever since been great tenderness in and over the right kidney, followed by almost daily paroxysms of pain,

for almost three months. The pain, always referred to the region of the right kidney, frequently extends to the left, is followed by increased tenderness over both kidneys, and is accompanied by a sense of distress at the pit of the stomach. The paroxysms are always followed by greater intensity of the jaundice, the skin and conjunctivæ becoming dark green, and the urine almost black. Yet no tenderness has been detected on the anterior surface of the abdomen. Vomiting of white, frothy matter occasionally attended the painful spasms. The stools were variable in color and consistency, being sometimes black, at other times white or clay-colored and pasty, again of a peculiar gray mottled with glistening particles, and occasionally they would consist altogether of a thick, gelatinous substance of the color of the yolk of an egg.

The urine contained abundance of bile pigment, and at times blood. The microscope revealed renal epithelium, epithelial, granular, and hyaline casts, pus cells, blood corpuscles, and a large quantity of fungous growth. At times there has been vesical tenesmus and painful micturition.

The tongue was never coated in the least, but always dry, red, and shining. Pulse generally below the normal standard, weak, and more or less irregular. Temperature nearly normal.

About the first of October last, the body became covered with spots of purpura, petechial in size, and later these became aggregated into large masses without coalescing. Within the past few weeks large ecchymoses have appeared, on the extremities mostly, some of which measure one inch in width by two in length, of blue-black color. They are tender, and each has a central spot which is harder and more tender than the rest, and which is the last point to disappear. They generally fade out in a week or ten days. Percussion shows a well-marked diminution in area of hepatic dullness. The patient has suffered occasional attacks of syncope, palpitation, and dyspnoea.

Regarding the import of some of the more important symptoms, Dr. Stebins gave hints backed by high authority. The general sluggishness of the circulation was, in his opinion, explained by the existence of fatty degeneration of the muscular fibres of the heart; the infrequency of the pulse depended upon the general prostration of functional and organic life, and the absence of fever was accounted for by the fact that the whole economy was prostrate, there being no febrile movement because there was no tendency whatever to reaction. He considered the nervous phenomena dependent on biliary poisoning. He did not offer a diagnosis of the case, but asked the members of the society the following pertinent questions:—

(1.) What is your diagnosis so far as it relates to the disease of the liver? (2.) Was it a primary or a secondary affection? (3.) Was the kidney affection primarily functional or organic? (4.) Was the liver affection primarily functional or organic? (5.) Why was there no pain nor tenderness referred to the liver, and so much pain and tenderness over the region of the kidneys and spleen? (6.) Was the abortion a primary and important factor in the causation of the succeeding affections?

Case II. was that of a teamster, aged fifty years, who was taken about the middle of August with the following symptoms: chills, headache, furred tongue, offensive breath, sallow complexion, accelerated pulse, elevated tem-



perature, high-colored urine, and constipation. There was a violent cough for several weeks, during the time the fever lasted. He returned to his work in about two months, though not fully recovered. Two months later he was taken with chills, together with great pain and tenderness and sense of fullness in the hepatic region. There was evidently pleurisy on the right side, with very painful respiration, and a violent cough. Frequent rigors and exacerbations of fever occurred for a week or two. The pain and tenderness extended upwards, the cough growing constantly more painful, until, finally, there appeared at the fifth intercostal space, between the right nipple and ensiform cartilage, at a point about an inch to the right of the latter, a red, tender swelling, which increased rapidly in size, and ruptured in three or four days, discharging an abundant quantity of pus mixed with more or less blood.

The acute symptoms subsided immediately upon the occurrence of rupture, but the discharge continued for eight months, since which time the patient has been well. Concerning this case the reporter asked the following questions:—

(1.) Whence came the pus which was discharged at the point indicated? (2.) The trouble with the liver being primary and the pleurisy secondary, what was the affection of the liver? (3.) Was the suppuration the result of an abscess anywhere, or was it a product of effusion?

The paper was briefly discussed, after which a number of cases were reported, some of which are subjoined.

*Intestino-Vesical Fistula.*—Dr. A. F. Reed reported a case of intestino-vesical fistula. The patient, a French boy, seventeen years of age, had had typhoid fever three months before. He had become convalescent, and was getting about a little, when all at once, about a fortnight ago, he began to pass liquid fæces through the urethra whenever he made water. The rectum was thoroughly washed out and distended with water, but no impression was made on the amount or character of the substances voided from the bladder. It was therefore concluded that the fistula connected the bladder with the ileum. The patient was in fair condition, and suffered but little pain.

*Suppurative Inflammation of Gall-Bladder.*—Dr. David Clark reported the following case: A man, about forty years of age, began last summer to complain of general debility. Soon a sharp diarrhœa set in, the patient having as many as ten stools in a day. Then followed a severe cough, which gave promise of approaching phthisis, but yielded to treatment in the course of a few weeks. In September he became jaundiced; the diarrhœa and cough had ceased. Several physicians attended him, until at last he fell into the hands of "Dr." W. He purged him at the rate of thirty discharges a day, and soon put him to bed. He died December 27th.

The autopsy revealed entire absence of the gall-bladder. In place of this organ was a collection of pus in the form of an abscess, the walls of the cavity being formed by the liver above, and below by the colon, which had become adherent at that point to the liver. The colon, near the seat of the abscess, contained a dark, grumous fluid, and, further down, fæcal matter, more or less colored with bile, showing that there must have been communication between the colon and the cavity of the abscess, which allowed the passage of a certain quantity of bile into the former from the latter. The tissues were so much

softened in the vicinity of the abscess that they broke down at once on being disturbed, and thus prevented a careful examination of the exact relations of the parts. It was the opinion of those present, however, that there had been no discharge of bile through the natural outlet, the common duct, for some time. The liver was engorged, and the hepatic system contained considerable thick bile, which could be easily squeezed from the open mouths of the hepatic veins. The kidneys showed evidences of chronic changes in the tubules.

*Tuberculosis.* — Dr. H. G. Stickney read a letter from Dr. Holbrook, of Palmer, giving an account of a case of tuberculosis. The patient was a colored boy, aged twelve years. Autopsy revealed tubercles in abundance, throughout the lungs, bowels, and mesentery. The liver weighed seven pounds and one ounce, and extended from the diaphragm to the os pubis. Dr. Holbrook noticed nothing abnormal about the organ except its size. The gall-bladder was very small. The whole body would not weigh over thirty-five pounds.

*Aortic Aneurism.* — Dr. Chapin reported the results of an autopsy which he had made on the body of Dr. W. J. Sawin, just one month after his tragic death at the Masonic Hall in Springfield. The body, which had lain in a tomb since the funeral, was somewhat stiffened by cold, and was in almost a perfect state of preservation. The brain was first examined, and nothing abnormal was discovered except a small patch of atheroma in the wall of the basilar artery. The organ weighed fifty-seven ounces.

On opening the chest a very large deposit of fat was observed in the anterior mediastinum. The pericardial sac contained a full pint of blood, partly clotted. On removing this and searching for its source a small ruptured aneurism was discovered projecting from the aortic wall, about half an inch directly above the point of origin of the left coronary artery. The aneurism was about as large as a small filbert; on both sides of it and below it, as well as over the whole anterior surface of the heart, was a deposit of fat so abundant that but little muscular tissue was visible on this aspect of the organ. Section showed streaks of fat running through the muscular walls of the right auricle and ventricle, the walls themselves being considerably thinned. The left side of the heart exhibited similar changes of less extent. The aorta was somewhat dilated. Opposite the aneurism, on the inner surface of the aorta, was an atheromatous ulcer an inch and a half long and three quarters of an inch wide.<sup>1</sup> The heart weighed twenty-two ounces.

*Injury of Orbit.* — Dr. Gardner reported a case of injury to the orbit, in which a sharp stick had been thrust in between the eyeball and the wall of the orbit, on the nasal side. The stick was removed with difficulty, seeming to be impacted in some of the structures of the orbit or eyeball. A year later an opening occurred above the globe, and about four weeks after this event a small piece of wood was discharged. Dr. Gardner thought the stick must have struck the bony wall of the orbit, and bent upon itself, so that, when it was pulled out, the end thus bent was separated from the rest and left behind to work its own way out at a later period.

<sup>1</sup> It will be remembered that Dr. Sawin's death was ascribed to apoplexy. Vide JOURNAL, December 27, 1877.



## PROCEEDINGS OF THE PROVIDENCE MEDICAL ASSOCIATION.

VIRGIL O. HARDON, M. D., SECRETARY.

SEPTEMBER 3, 1877. *Forceps in Breech Presentations.* — Dr. George Capron read a paper on The Use of Forceps in Breech Presentations.

Dr. Capron first alluded to a method, original with him, of delivering the child in those cases where the head is the part last expelled: namely, as the head descends into the pelvis carry the body of the child forward between the thighs of the mother, and bring down the face to the vulva, thus enabling the child to breathe before the head is delivered. When the head is lodged at the superior strait the long forceps should be used. When the head has descended into the pelvis, the face has been brought down to the vulva, and the child does not breathe, the pains being insufficient to expel it, the application of the forceps is easy, and will usually save the life of the child.

Dr. Capron related two illustrative cases. He would impress upon practitioners the importance of being always prepared with forceps.

*Hydrophobia.* — Dr. W. W. Potter reported a case of hydrophobia: —

A male patient, aged thirty-three, was bitten in the hand three years before. Health good until September 12, 1877, when he felt pains in the left shoulder and chest. The second day there was difficulty in swallowing, and sleeplessness. Third day the same symptoms much increased; patient excitable; could not bear a draught of air to strike him; attempt at swallowing followed by laryngeal spasm. Throat full of thick sputa, dislodged with difficulty. Pulse 72, temperature 99° F., respiration accelerated. Bromide of sodium was given and morphia hypodermically. Fourth day the same symptoms in greater intensity. Pulse 120, respiration 40. Chloroform produced laryngeal spasm. Fifteen grains of chloral were given hypodermically.

The patient died from asthenia seventy-two hours after the onset of the disease. One hundred and ten grains of chloral were given during the last thirty-six hours.

*Autopsy* revealed nothing but extreme rigor mortis, hypostatic congestion of the skin, and extreme congestion of all the thoracic and abdominal organs.

Dr. O. W. Brown queried whether excessive alcoholic intoxication might not be beneficial in cases of hydrophobia, as it is known to be in the bite of the rattlesnake.

Dr. Noyes, quoting Professor Dalton, stated that the dog is liable to a number of nervous diseases. One form occurs more frequently in the cold season, and when communicated to man makes its appearance in from six to nine months.

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THE AMERICAN NEUROLOGICAL ASSOCIATION.<sup>1</sup>

THE appearance of the first volume of transactions of this new association was noticed more than a year ago in the JOURNAL, and it was recognized as

<sup>1</sup> *Transactions of the American Neurological Association for 1877.* Edited by E. C. SEGUIN, M. D. Vol. II. New York: G. P. Putnam's Sons. Pp. 227.

forming a contribution of merit to medical literature. We are glad to offer the same welcome to the present volume.

The number of active members is apparently small, but they seem bound to make their influence felt, as is shown, among other things, by their readiness to subscribe large sums toward the publication of their proceedings, their president, Dr. Jewell, of Chicago, speaking lightly in his address of a possible tax on each member of fifty or a hundred dollars for that purpose. We cannot pretend to give a detailed notice of all the individual papers, but will refer briefly to a few of them.

Dr. H. D. Schmidt, working energetically and by himself, in New Orleans, sends a further contribution to the histological anatomy of the nervous centres, this time taking up the ganglia of the posterior spinal-nerve roots.

Dr. G. M. Beard has investigated the cause of the endemic tetanus said to infest certain parts of Suffolk, Long Island, though now on the decline, as he finds, and concludes, on the whole, that it lies in the dampness of the ocean air combined with local dampness of the soil.

The same writer contributes a paper, summed up in the record of the proceedings, on the Influence of the Mind in the Causation and Cure of Disease, in which he seems to maintain that we ought to study how the health may be affected through the emotions, and practice accordingly. We refer to the subject because we think that this is a view only too likely to gain ground in America, and because it meets with our unqualified disapproval as representatives of the profession at large. To appeal to the superstition of our patients, or even to their emotions of hope, etc., except to the limited extent that strict custom has long and openly sanctioned, is to run the risk of doing incalculable mischief by fostering superstition in the individual and the community, and by introducing an unknown and unknowable quantity of confusion among the difficulties which attend the study of scientific therapeutics. If the physician must be friend and priest to his patients, as perhaps he must, it should only be to the extent of appealing to their better judgment. Even though the patient's bodily health may suffer temporarily for the physician's adoption of this course, his claim upon him is not so great as that of the community, lay and professional, present and future.

Dr. Seguin contributes a number of very valuable autopsies in cases of localized cerebral lesions, which support, on the whole, the views of Hitzig, Ferrier, etc., as to the functions of the so-called motor region of the brain, though not particularly as to the exact position of the various "centres;" and Dr. Spitzka reported a case where convulsive movements of the facial muscles and arm of the right side were apparently due to a lesion of the cortex cerebri on the right side (exact position not stated). The explanation of these discrepancies is no doubt to be sought in part by the aid of anatomy and physiology, but in part also by that of philosophical inquiries, such as characterize the writings of Hughlings Jackson and the recent work of Kussmaul on Aphasia, etc.

Dr. S. G. Webber, of Boston, gives an article on Paralysis after Acute Disease, with six cases, which illustrate a number of the points in question.



## TREATMENT OF HYDROPHOBIA: CURARA.

If hydrophobia is a dreadful disease for the patient, it is also such for the physician and attendants; even for those, if any there still be, who regard the phenomena as of a purely psychical origin. It is perhaps the disease of all others in which the physician feels himself not only powerless to cure, but often even to alleviate suffering. Morphia and ether, those invaluable aids in most hopeless and painful diseases, betray us here. All antispasmodics and sedatives and evacuants have been tried, from injections of tobacco and bleeding forty years ago, to steam baths, chloral, and bromide latterly, with uncertain and unsatisfactory results, until one is almost led to think that the resort to the pillow, at one time prevalent in parts of Europe, if not an ethical was at least not a cruel procedure. Jaborandi, or its alkaloid pilocarpine, has been of late suggested as a remedy by elimination, with the same end in view as the treatment by steam baths, known as Buisson's system; but we know of no cases where it has been tried, and should not anticipate any degree of success.

At least three trustworthy cases have been reported within late years in which recovery from symptoms similar to those of hydrophobia has followed the use of curara. Was the disease in each or any of these hydrophobia? was the recovery due to curara? Certainly none of the three is so convincing as to disarm skepticism, though the case reported by Dr. Watson, of Jersey City,<sup>1</sup> is striking. The amount of curara used was very small, about one third of a grain, and was administered subcutaneously at intervals of three hours, the first injection containing one sixteenth of a grain, the second one ninth of a grain, and the third one sixth of a grain. No physiological effects are reported to have been produced. It was administered on the sixth day of the disease, when marked symptoms of exhaustion are said to have been present. In the case of Dr. Offenbergl,<sup>2</sup> morphia and chloroform having been used without success, three grains of curara were introduced within five and a half hours in seven injections. Muscular paralysis supervened, reaching its maximum on the second day. The second day after the injections a slight relapse of the first symptoms was controlled by one half a grain of curara. The injections were begun three hours after the outbreak of the symptoms. The recovery was slow. In the third case, that of Dr. Polli, the subject was a child twelve years of age; twenty centigrammes (three grains) of curara were administered in five and a half hours in seven injections. Partial paralysis was induced. A return of the previous symptoms three days later was controlled by three centigrammes (half a grain).

On the other hand, we have at least three cases in which curara was used with no effect, or an unsatisfactory one. In one case<sup>3</sup> six and a half grains were given in four injections at intervals of two hours; the first injection containing one grain, the second one grain, the third two grains, the fourth two and a half grains. No effect was produced. In the case reported in the JOURNAL, May 17, 1877, four grains were injected in half-grain doses within

<sup>1</sup> American Journal of the Medical Sciences, July, 1876.

<sup>2</sup> Deutsches Zeitschrift für praktische Medicin, No. 52.

<sup>3</sup> Lancet, 1872, page 227.

twenty-one hours, but on this occasion morphia, nitrite of amyl, chloroform, and chloral were also used.

In a late case, not yet reported, which terminated fatally, four and a third grains were injected in varying doses within five and a half hours.

Other reports exist of the unsuccessful use of curara, but in most the amount was extremely small.

The great present drawback to the use of curara as a drug is its very uncertain purity, scarcely any two specimens being the same in this particular. We may thus account in part for the different results obtained in those cases where it has been tried and the unsatisfactory impression they make. The character of the effect produced is always the same, but the amount varies with the quantity of extractive matter. Apart from any experience, ought we to expect good results from what we know of the physiological action of curara? We learn from Claude Bernard's<sup>1</sup> experiments that it produces some peculiar effect upon the terminations of the motor nerves, "unhooking," to use his expression, first the central terminations in the cord and subsequently the peripheral terminations in the muscles; this latter is only reached where the circulation is carried on for a longer time, as in cold-blooded animals, or with artificial respiration in mammals. The result is an inability of the motor nerves to cause contraction of the muscles. The muscles of the extremities are apparently the first cut off, then those of respiration, and finally the heart.

Death in hydrophobia usually takes place from asthenia, the result of constantly recurring and exhausting convulsions, or from asphyxia during one of these spasms. From what late investigations have taught us of the minute pathology of the nerve centres in the medulla and at the base of the brain we may attribute the spasmodic manifestations to the congestion and hyperæsthesia of these centres, and of parts of the cord in a less degree. Curara can produce no effect upon these central lesions. An irritating impression is received, is transmitted, is registered at the central office, producing there the proper commotion; here, however, the routine is broken; orders may be prepared for the muscles, but they cannot be sent, and do not arrive.

All we can expect, then, of curara is an avoidance of the outward and visible sign of spasm. This is not much, but we are not ready to say that it may not be enough in some cases to prolong life and give an opportunity for the elimination of the hydrophobic poison.

Certain precautions should be borne in mind. The efficacy of any specimen should be previously ascertained by experiment. It should only be administered hypodermically. In preparing it the drug should be reduced to a fine powder, diluted with a little distilled water, and filtered through filtering paper. This should be done at least on the day or better still at the time of use, as a second precipitate of extractive matters is formed upon standing which cause abscesses at the points of injection. Larger quantities should be administered than has hitherto been usually the case, either in the form of one large dose, or, perhaps better, of frequent small doses. One to two decigrammes (about one and a half to three grains) have been given at once in tetanus.<sup>3</sup> The

<sup>1</sup> *Physiologie générale*, 1872, page 237.

<sup>2</sup> Vulpian, *Leçons sur la Physiologie*, 1866, page 211.

<sup>3</sup> Voisin. *Dict. de Médecine et de Chirurgie pratiques*.



earlier in the disease the drug was used the more favorable result we should expect, and the less the quantity of curara we should suppose necessary.

We cannot but think it worth while to make further use of curara in hydrophobia in view of the results so far obtained, and certainly in the absence of anything more promising.

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### MEDICAL NOTES.

— Dr. De Chaumont observed, in a square ward of St. Mary's Hospital, which had a dividing screen down the centre, on each side of which beds were placed, that patients in some of the beds got erysipelas, whilst those opposite did not. On examining the air, it was found to be more impure where the erysipelas prevailed, the patients receiving only 1560 cubic feet of fresh air per head an hour, whereas in the other parts they were receiving from 2500 to 3600. Pus cells were also detected by the microscope over the beds where the ventilation was least satisfactory.

— The last report of the British Army Medical Department for 1876 shows that the admissions into hospitals, among 48,620 soldiers, for primary venereal sores were thirty-three per one thousand men at those stations where the laws regulating prostitution are in force; among 38,073 men, where those regulations are not applied, the rate was sixty-three, or *nearly twice as great*. At the former stations the gonorrhœa rate was sixty-eight per one thousand, whereas in fourteen large stations not under the contagious diseases acts it was eighty-nine. The prevalent opinion of the medical officers of the various commands is that those enactments exercise a salutary influence upon the health of the soldiers. In some places, however, it is clear that they do not accomplish any real good; in a few, indeed, there is apparently an increase in the amount of venereal disease in spite of them.

— A very suggestive series of experiments has recently been performed by Professor Frankland, with the object of ascertaining how far it is possible for solid or liquid particles to be scattered in the air of sewers as it passes along over the sewage. By using a solution of a salt of lithia mixed with water, and then agitating the mixture more than would take place under any circumstances in sewers, he was unable to detect in the contiguous air any trace of lithia even by the spectroscope. By generating gases in the fluid, however, in a manner similar to what occurs during putrefaction, the particles of lithia were carried into the air with these gases, and were easily ascertained to be present there. The bearing of these facts upon the importance of having all sewage discharged before it putrefies, and the danger of our cess-pool-sewers in Boston and of all cess-pools, whether in sewers or out of them, is quite manifest.

— Dengue, or "break-bone fever," so long known as a sporadic disease in Egypt, as well as in some parts of our Southern States, has appeared in Ismailia, on the Suez Canal, in a severe epidemic form. The first case was in July, the greatest prevalence in September and October. The severe rheumatoid pains, the eruption resembling scarlet fever or measles, the favorable

course and short duration of the disease, the long period of convalescence, and the tendency to repeated recurrent attacks constituted the group of diagnostic symptoms. Of two thousand persons, the estimated population of the village, nearly eighteen hundred had the fever, without a single death. The epidemic reached all quarters, Arabic, Greek, and Calabrian, and prevailed among all classes, irrespective, too, of age; occasionally six or eight of a family of ten lay ill at one time. Contagiousness was thought to be not more than a doubtful element in the spread of the disease, as it was so distinctly localized. Beside the unusual heat, Dr. Decarogna noted, as partial explanations of the outbreak, several foul, miry ditches filled with stinking animal and vegetable decaying matter; an uncommonly high level of the ground-water; pollution of the wells; stagnant pools of surface soil-water, mixed with slop-water, and finally the agglomeration, in the town, of filth of all kinds around the dwellings of the lower classes.

— We quote the following from the *Times and Gazette*, which fairly represents the opinion of the English *Medical Press* on one of the questions already following the recent permission acceded to women to receive degrees from the London University: "To admit women to the profession is one thing, but to admit them to our societies is quite another thing. And a man may hold that women ought to be allowed to enter the profession, or may no longer resist their doing so if they can, though he thinks they are making a great mistake, and yet may refuse their entrance into our societies and associations without being inconsistent. To refuse the latter does not prevent or interfere with their adopting a career for which they think they are especially fitted; and many men may very strongly object to women being present at or taking part in discussions on medical topics. It may be replied, and has been, that "to the pure all things are pure;" and so they are, or ought to be, so long as their discussion is a matter of necessity. But it is no matter of necessity that medical women — or ladies, as the committee of council prefer to call them — should assist at the public discussion of all medical topics with medical men; and it has ever and always been the custom in civilized society for men to scrupulously avoid the mention of, much more discussions on, certain functions, diseases, and parts of the body in the presence of the other sex. This, it is said, is a prejudice, an outcome from habit and education. We do not think so. We should rather say that it is an instinct that becomes developed in proportion as nations become civilized, and we cannot but regard any effort or tendency to repress or suspend it as an unmixed evil."

— A new small insane asylum is to be built in Leipsic, near the general hospital; the various departments will contain accommodations for one hundred patients, and are designed chiefly for furnishing means of clinical instruction in mental disease.

— Ruhmkorff, the celebrated electrician, born in 1803, died in Paris on December 20, 1877. The *Medical Press and Circular* informs us that M. Janin delivered an address over the grave, in which he stated that Ruhmkorff, because of his benevolence and his liberal expenditure on behalf of science, died almost a poor man. For the famous "Ruhmkorff coil" he received the prize of 50,000f. at the French exhibition of electrical apparatus in 1858.



— The following proposal has been submitted to the municipal council of Paris: Considering that for the last twenty years representations have been made by hospital surgeons in favor of the isolation of children attacked with diphtheritic diseases, which representations have had their origin in the great mortality of the little patients who have been operated upon often in the same apartment, in presence of other children, and exposed consequently to all the contagious diseases which exist in the general wards; considering also that a diphtheritic epidemic has existed for the last two years, which renders imminent similar unfortunate results, therefore the council is asked to vote the establishment of isolation wards for such diseases, specially reserved for children, and notably in the hôpital of the Rue de Sèvres.

— In the absence of any power of compulsion, under the law, the Berlin Board of Health have requested physicians to report to them all cases of diphtheria coming to their knowledge. In houses where that disease appears, it is advised that children be kept from school until a physician's permission is obtained, allowing the resumption of school-work. Schools are to be closed only in extreme cases, when the board consider that step necessary. There were one hundred and twenty deaths from diphtheria in Berlin during the last month of 1877; twenty-six deaths from croup were also reported.

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## MASSACHUSETTS GENERAL HOSPITAL.

### SURGICAL CASES OF DR. WARREN ILLUSTRATING THE ANTISEPTIC SYSTEM.

[REPORTED BY J. W. ELLIOT.]

*Abdominal Abscess.* — N. N., a healthy farmer, of Irish descent, fifty-five years old, entered the hospital August 16th, with a large pulsating tumor in the right hypochondrium. He had once received a heavy blow on the head. Four weeks before entrance, while at work in the hay field, was suddenly attacked with diarrhœa and great pain in the abdomen. Soon after this he noticed the tumor. The diarrhœa and pain continued. He walked with his left shoulder higher than his right, and had some lateral curvature of the spine. The pulsation, although evident to the eye, was not felt when the tumor was grasped laterally. There was no aneurismal bruit. It was therefore considered to be a transmitted pulsation. There was an evening exacerbation of temperature. The diagnosis of an abscess within the abdominal walls was made, originating probably from the spine or a rib.

August 22d. The patient was etherized, and an aspirating needle having been introduced a pint of pus was drawn off. During the following month the sac gradually refilled. The patient had frequent attacks of diarrhœa with apparent diminution in the size of the tumor, and gradually failed in strength until he became very feeble.

September 22d, the patient having been etherized, the abscess was laid open by an incision two inches long, under carbolic acid spray. The finger was introduced into a sac as large as two fists, extending up beneath the ribs and down as far as the umbilicus. The pus being evacuated, a drainage tube was

introduced and the incision closed. A Lister dressing was applied. The temperature fell to the normal degree and did not rise again. During the following five weeks the dressing was changed but four times. The discharge from the drainage tube gradually diminished, and the patient's general health steadily improved. On the thirty-fourth day after the operation the drainage tube was found to be tightly grasped by the granulations which had completely filled the cavity. The tube was then shortened, so as to keep the mouth of the wound open, allowing the deeper part to heal. This fragment was removed two days later, after which the wound immediately closed. The patient has since appeared at the hospital, and is in good health.

*Double Hydrocele.* — S. R., a negro, twenty years of age, with an enlargement of both testes, evidently scrofulous, and a large double hydrocele, entered the hospital on September 22d for radical cure. The disease had existed for five months, and had not yielded to tapping.

On September 26th, the patient being etherized, each tunica vaginalis was laid open at its most dependent point by an incision two inches long, under carbolic spray. The cut edges of the tunica vaginalis were then stitched to the corresponding parts of the scrotum, carbolized with catgut, thus leaving a free opening into the cavity.

A Lister dressing was carefully applied. On the following evening the temperature rose to 104.2° F. On the second day after the operation the dressing was changed under spray, and the scrotum was found very much swollen and œdematous. This was apparently due to constriction of the neck of the scrotum by the dressing. The temperature remained at 104.2° for two days, then gradually sank, reaching normal on the eighth day.

The patient suffered no pain at any time. During eleven days following the operation the dressing was changed three times; the swelling had in the mean time gradually subsided.

The Lister dressing was removed on the eleventh day. A small superficial granulating surface only remained, the tunica vaginalis having evidently been obliterated immediately by adhesive inflammation. The granulations were strapped with plaster, and the patient left the hospital, cured, at the end of a month. The constitutional disturbance was so slight as to be made apparent only through the thermometer. Had it not been that the testicles were much enlarged by previous disease the patient might have been discharged at the end of ten days.

*Excision of Knee-Joint.* — J. R., a feeble Frenchman, twenty-nine years old, entered the hospital July 27th with chronic inflammation of the knee, caused by an injury fourteen years previous. Four months before entrance an abscess formed and discharged, leaving a fistulous opening into the joint. The patient had become much emaciated, and had a bad cough and waxy complexion. The chest was examined, and some dullness and fine moist râles were found under both clavicles. There was nothing abnormal about the urine. The affected leg was much emaciated, and the joint nearly stiff. A probe passed readily into the joint and touched rough bone. A ham-splint was applied to the leg, the patient was put on good diet and tonics, and kept in the open air until his general health was much improved.



October 20th. The patient being etherized, the joint was laid open, under carbolic spray, by a horizontal incision. The articular surface was found to be extensively diseased, and excision was accordingly performed. The bones were wired together with two stout silver wires, and a drainage tube passed through the bottom of the wound behind the knee. The vessels were secured with carbolized catgut ligatures. A Lister dressing was applied, and the leg put on a hospital resection splint.

There was scarcely any constitutional disturbance. The temperature never rose above 101° F. The dressing was not stained or changed for eight days, at which time the wound had completely closed about the tube.

The dressing was changed only four times in one hundred days, and at no time was there any smell of putrefaction. Eight weeks after the operation the wires and drainage tube were removed, at which time the bone did not yield under moderate pressure. Four weeks later there was good bony union, but a sinus left by the drainage tube still remained unhealed. There was also a small superficial sinus, which was laid open.

At the present time, twenty weeks after the operation, the patient is about on crutches, with a dextrine bandage over a Lister dressing, which was left on, as a small sinus had not entirely closed. He bears his weight upon the leg to some extent in walking.

*Excision of Breast.*—Two breasts were excised, the first under carbolic spray. In the second case the spray was not used, but the wound was thoroughly washed with carbolic acid and a Lister dressing applied while the wound was being syringed. The vessels were secured with carbolized catgut and the flaps stitched with the same material. In both cases a drainage tube was left in the wound for five days. The dressings were held in place by an elastic swathe. Large bunches of salicylic cotton were put on, outside the Lister dressing, at those points where the discharge was likely to stain through.

Both cases did well. There was scarcely any constitutional disturbance. The temperature only once reached 102° F. in each case. In the first case the disease was extensive, largely involving the axillary glands. The operation was performed during lactation, and there was unusually profuse hæmorrhage.

On the fifth day, as unfortunately is usual, the catgut stitches were dissolved; the flaps being heavy were not sufficiently adherent to prevent the wound from gaping slightly in the centre. The dressing was changed three times in eight days, and then removed. The patient left the hospital, well, seventeen days after the operation.

In the second case the flaps gaped somewhat from the same cause. The dressing was changed six times in eighteen days. The patient left the hospital, well, twenty-three days after the operation.

In both of these cases the discomforts attending the usual traumatic fever and local inflammation were absent, and convalescence was rapid. All important cases were treated antiseptically during Dr. Warren's term of service, except those about the face and neck, where dressings are applied with difficulty and healing goes on rapidly. Erysipelas, which had been prevalent the previous summer, was absent, and the improved hygiene of the wards was noticeable.

## COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending Feb. 23, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean of ten Years, '63-77.
New York.	1,093,171	524	24.92	24.32	28.71
Philadelphia.	876,118	279	16.56	18.80	21.54
Brooklyn.	549,438	184	17.41	21.51	25.50
Chicago.	460,000	125	14.13	17.83	22.39
Boston.	375,476	142	19.66	20.10	24.34
Providence.	104,500	49	25.48	18.81	19.20
Lowell.	55,798	16	14.91	19.09	22.50
Worcester.	54,937	13	12.31	21.07	22.30
Cambridge.	53,547	18	17.47	18.69	20.83
Fall River.	53,207	18	17.59	21.35	24.96
Lynn.	35,528	17	24.89	20.42	19.67
Springfield.	33,981	6	9.19	16.04	19.77
Salem.	27,140	12	22.99	20.38	21.15

OBITUARY. — The following resolutions were adopted by the South Boston Medical Club on the death of Dr. S. F. Bachelder: —

*Resolved*, That in the death of our late associate, Dr. S. F. Bachelder, connected with insidious spinal disease, we recognize the sovereign decree of an all-wise Providence.

That we deeply deplore the loss of a worthy and respected brother, whose professional zeal, self-denying labors, and many characteristics of the good physician have commanded our confidence and esteem.

That with high appreciation of the public and private as well as professional life of the deceased, we cherish his memory with grateful and tender remembrance.

That we offer to the widow and family our professional sympathy and abiding consideration and regard.

That these resolutions be entered on our records, and a copy be furnished to the family, and to the press for publication, and that the secretary be charged with this duty.

BOOKS AND PAMPHLETS RECEIVED. — Reports on Diseases of the Chest, under the direction of Horace Dobell, M. D. Vol. III. London: Smith, Elder, & Co. 1878.

Laryngoscopy and Diseases of the Throat. By Prosser James, M. D., M. R. C. P. Second Edition. London: Baillière, Tindall, and Cox. Paris: Baillière. Madrid: Bailly-Baillière. 1878.

Roosevelt Hospital, New York. Sixth Annual Report.

Reference and Dose Book. By C. Henri Leonard, M. A., M. D. Third Edition. Detroit. 1878.

De l'Amputations du Col de l'Uterus. Par le Dr. A. Leblond. Paris. 1877.



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## LECTURES.

### ANEURISM OF THE ABDOMINAL AORTA.

CLINIC OF PROF. ALFRED L. LOOMIS, M. D., MEDICAL DEPARTMENT OF  
THE UNIVERSITY OF THE CITY OF NEW YORK.<sup>1</sup>

GENTLEMEN: This patient, a man thirty years of age, tells me that he has not been well since three years ago, when he began to be troubled with rheumatism. When I question him more closely, however, I find that he had a previous attack of rheumatism when he was twelve years old, which confined him to bed for two weeks, after which he had constant rheumatic pain in the soles of the feet, knees, and calves of the legs for a year. Some time since he also had some disease about the shoulder-joint, which he says was necrosis, and which was followed by a discharge of several pieces of dead bone. As far as he can remember, he has never received any injury in either that or any other part of his body. He declares positively that he has never had any venereal disease, and I can discover no evidence at all about him of his having been the subject of constitutional syphilis. He says that he can lie down with his head low without any feeling of oppression, and can go up-stairs without inconvenience, except from some pain about the back and hips. When I inquire if there is anything else of which he complains, he replies that he has a swelling in the left side below the ribs, and that he first noticed it two years ago. He is entirely unable to account for its presence, and, as I have previously remarked, does not remember ever having received any injury. There does not seem to be any pain in it, but he has a pain in the back which he thinks is connected with and caused by it. There is one other thing to notice: he says his ankles and the soles of the feet are swollen. [At this point Dr. Loomis called down four students into the amphitheatre, and questioned the first one as follows:]

What should you say, from what you have heard, was probably the matter with this patient? Answer: "Disease of the heart." Why? "From the rheumatic history and the existing swelling of the feet." The patient tells us that the swelling spoken of is simply of a rheumatic

<sup>1</sup> Reported for the JOURNAL.

character: but now in regard to the rheumatic history, would you think an acute attack of rheumatism at the age of twelve more or less likely to be complicated with cardiac disease than one at the age of twenty-five? "Less likely." No, the reverse is true. Heart complications are almost the universal rule in rheumatism at this age, and there is very apt to be pericarditis as well as endocarditis. The patient having now been stripped, you place your hand over the heart and find that the apex beat is pretty nearly in the normal position (though perhaps a little too far to the left), and that it is much stronger than normal. What would you say that this was probably due to? "Hypertrophy of the left ventricle." Now, supposing that on auscultation I found that the first sound of the heart was much longer and more prominent than usual, and yet could detect no cardiac murmur, what would be the natural inference? "That there was hypertrophy due to interference with the circulation somewhere outside of the heart; in the kidneys, for example." Yes, that is so; but in this particular case I think we can exclude kidney trouble, as there is no reason to suspect its presence. [The four students, having made use of the stethoscope, all united in saying that they could hear no murmur.] Well, here is a man who undoubtedly has hypertrophy of the left ventricle, the first sound being very greatly intensified, and yet who has no murmur with it; how shall we account for this state of affairs? It has been correctly stated that hypertrophy may be due either to lesions about the heart itself, or to interference with the circulation somewhere outside; the fact of there being hypertrophy merely showing that the heart is doing more than its normal amount of work. If it is due to some outside interference, this obstruction is much more apt to be found, according to my experience, in the capillary circulation than in the large arteries. A very large aneurism of the thoracic aorta is not infrequently accompanied by a small heart; but a hypertrophied heart is apt to be found with abdominal aneurisms, or those of the lower extremities, as, for instance, popliteal aneurisms.

Now let us turn our attention to the examination of the abdomen. All the four gentlemen say they have found a distinct tumor there, in the umbilical region, and a little to the left of the median line. They describe it as fluctuating, somewhat compressible, dull on percussion (therefore not gaseous), and accompanied by an impulse. Three of them are of the opinion that this impulse is of a dilating, and one that it is of a heaving character. When the stethoscope is applied over the tumor you notice the instrument distinctly rising and falling with it, and on auscultation there is heard a harsh, blowing murmur, synchronous with the first sound of the heart. This sound is not heard so plainly directly over the tumor as upon its right side. When I make palpation myself, I find an evident ovoid tumor, perhaps four



inches in diameter, situated in the median line (and extending somewhat to the left), just below the celiac axis, and characterized by a very distinct impulse which is dilating and not merely heaving. It is, then, directly upon the line of the abdominal aorta, and must be located either on or in it. Furthermore, it is immovably fixed, and is not tender to the touch. The patient now being upon the hands and knees, we will examine it posteriorly. There is a good deal of pain in the back, extending over a considerable surface, which is not constant (sometimes being entirely absent), and which is aggravated by exercise. On percussion we find an abnormal area of dullness on the left side, corresponding with the situation of the tumor in part, and on auscultation the same murmur as in front, though much less distinct. The intensity of the sound is appreciably increased when I press the anterior abdominal wall up with one hand placed beneath it. The patient says that two years ago he first noticed that there was something unnatural in the abdominal region, though he had little or no pain. Since then he has had a great deal of pain in the back, however, and a continual "sore feeling inside," as he describes it. If he attempts to lift any weight he feels exhausted, his breath growing short and his heart beating violently. He thinks that he is worse than he was six months ago, and that his trouble is increasing every day. On examining the shoulder we find that there does not seem to have been anything the matter with the joint, but that there was disease of the upper part of the humerus, where the pieces of bone came away at two points, according to the patient's account. This may have been due to some slight injury which he does not now remember, but which may have set up a periostitis. The fact that the parts have healed up so completely is presumptive evidence that the bone disease was not due to syphilis.

Now, gentlemen, what is your diagnosis? You all agree that we have here an aneurism of the abdominal aorta. Will one of you please state your reasons for supposing this? Answer: "The presence of a tumor over the abdominal aorta, or on its left side, which is dull on percussion, pulsating in character, and accompanied by a *bruit*." Might not all these symptoms be present and yet there be no aneurism? Yes, they might; but it is rather improbable. Still, there is almost always room for doubt, at least in the opinion of some good observers; and in this connection let me relate a case to you:—

Three years ago a gentleman was sent to me by a physician practicing in the country, in whom I found all the symptoms of abdominal aneurism as clearly marked as in the present instance, while there was a much better history, which seemed fully to account for such a condition being present. Afterwards he was seen by three other medical gentlemen of this city, two of whom were among the oldest and most distinguished men of the profession, while the third, though a young man, was fully

capable of making a diagnosis. Strange to say, both the older men expressed the opinion that there was no aneurism present, but did not state why they thought so. The patient then returned to his home with this conflicting diagnosis. He did not want to believe that I was right, but he followed my advice, which was to keep perfectly quiet and lie down as much as possible. In this he was encouraged by his medical attendant, who agreed with me in the diagnosis of aneurism. In about six months I heard from the physician that he had improved greatly in every way, and that the murmur had disappeared. In six months more he brought the patient to me again, and I found that he was really a great deal better, but made the same diagnosis as before. After that, as I was informed, he got so well that he was apparently as competent to attend to all his business affairs as he had ever been, but in about two years he died very suddenly. There was, unfortunately, no post mortem made, but I think there can be little doubt that aneurism was the cause of his death.

I know of eminent diagnosticians who, if they were to see the case now before us, would be almost certain to give the opinion that it was not one of aneurism. Yet I believe that the man has aneurism, and, if it is not that, I am sure I do not know what it is. The only possible tumor that there could be in this situation would be an enlarged mesenteric gland, but there is no condition, in the present or past history, to account for such a growth. In conclusion, I will briefly recapitulate the reasons for supposing that there is an aneurism here: (1.) The presence of a tumor. (2.) It is dull on percussion. (3.) It is pulsating. (4.) It is on the line of the abdominal aorta. (5.) It is immovable. (6.) It is characterized by a sharp, blowing murmur. (7.) This murmur is heard behind also. (8.) There is more or less constant pain in the back. (9.) There is increased dullness on percussion posteriorly. (10.) There is hypertrophy of the heart. One of the symptoms on which I lay the most stress is the pain in the back, and I have never seen a case of abdominal aneurism in which it was absent. Yet you must not forget that it is possible for all the symptoms enumerated to be present, and no aneurism. It is, therefore, hardly fair to stake our reputation on one examination, and I shall be very much obliged if the patient will return again in about two months.



ESERINE AND PILOCARPINE IN THE TREATMENT OF  
EYE DISEASE.<sup>1</sup>

BY HENRY W. WILLIAMS, A. M., M. D.,

*Professor of Ophthalmology in Harvard University.*

It is now about fifteen years since the calabar bean (*Physostigma venenosum*) was introduced to the profession as an agent having the till then unattainable quality of producing at will contraction of the pupil. Its great value was at once recognized by ophthalmologists. But the supply of the remedy, previously unknown to commerce, was limited, and it is only recently that its alkaloids, eserine and physostigmine, have been readily obtainable for therapeutical purposes and physiological experiment.

During the past two years I have made extensive use of eserine in the treatment of corneal ulcers. The great number of cases of ulceration in strumous children and of traumatic and other ulcerations in adults presenting themselves at the ophthalmic department of the Boston City Hospital, together with those occurring in private practice, have afforded abundant opportunities for observation and comparison, and have allowed of an estimate as to the value of treatment which could not be conclusively based on merely a few cases of a disease so variable in its severity and duration.

The modern treatment of ulceration of the cornea as occurring in young children, which had to a great extent superseded the use of caustics, insufflations of calomel, and counter-irritation, has consisted largely in local applications of solutions of atropia. This has been employed to prevent the occurrence of hernia of the iris in case of corneal perforation, and was also and principally used on the theory that it acted as a sedative upon the affected part. As to this sedative influence I have long been skeptical, and unless this can be admitted as an undoubted fact, strong objections exist to the indiscriminate use of atropia. By causing a wide expansion of the pupil and admitting a strong glare of light to the retina it increases the already intense photophobia, and, by thus exciting still further spasmodic contractions, it tends to keep up the morbid processes by the friction and close pressure of the lids upon the ulcerated surface of the cornea, the very thing it is most important to avoid.

It seemed that eserine, by its strong contractile action on the pupil, limiting very much the amount of light which would reach the retina, might lessen the reflex action causing these spasmodic contractions, and thus prove of great advantage. The results of trial have fully justified my anticipations.

<sup>1</sup> Read before the Boston Society for Medical Improvement, January 28, 1878.

In strumous corneal ulceration in children there is little chance that the iris will be involved by contiguity; therefore no objection exists to the use of eserine, so far as any fear might be entertained of closure of the pupil by effused lymph, except where perforation of the cornea has occurred or is imminent. Even then, if the ulcer is at the margin of the cornea, eserine would be indicated, as it would draw the iris away from the perforation and lessen the danger of hernia iridis. If the ulceration is central, eserine may still be used as a curative means, being replaced at any moment by atropia, if desirable, in case perforation is threatened.

Children of tender age can give little direct information as to their sensations, but, judging from their actions and from the repeated testimony of intelligent adults, there is no doubt that a sedative effect, often at least, follows the application of the eserine solution; the supra-orbital pain, which is sometimes one of the physiological sequelæ of its use in a healthy eye, not being felt, but on the contrary a sense of relief from the pain already present in this region.

If we put into the eye a drop of a solution of sulphate of eserine (two grains to an ounce of water) it causes the pupil to contract strongly in about fifteen minutes, and this effect continues for some eight hours. It should be used in the morning, at which time the photophobia is greatest, so that its effect may continue during the day, and may be repeated in the afternoon if required. Its application causes little or no pain. A solution of eight or ten grains of borax to an ounce of water may also be used twice a day, or oftener, as an auxiliary, to lubricate the ulcerated surface and soothe its irritability.

In phlyctenular or herpetic eruptions of the conjunctiva or of the epithelial layer of the cornea, eserine is of service, especially when photophobia is present, and is far preferable to atropia, which by causing intolerance of light adds to the patient's discomfort, and which, also, by exciting spasmodic friction of the lids over the phlyctenular elevations increases the annoying sensation of a foreign body in the eye. There is, unfortunately, a disposition of late, among general practitioners, to employ atropia as a universal remedy in eye affections, probably because so much has been said of its value in iritis.

In traumatic or gonorrhœal ulceration, in ulcerations of the cornea in persons advanced in life or following exhaustive disease, and in creeping ulcer (*ulcus serpens*) my experience with eserine has been favorable. The circum or supra orbital pain, so often accompanying these ulcers, has been relieved in a marked degree as soon as the remedy had time to act, and the ulceration has assumed a healthier aspect.

I have not yet had an opportunity to employ eserine in the rare but dangerous form of ulcer accompanying some cases of herpes zoster frontalis, but the loss of accommodation and dilatation of the pupil attending this disease would afford especial indications for its use.



In the paralysis of accommodation and mydriasis often resulting from diphtheria and sometimes from measles or scarlatina, eserine is very effective in abbreviating the duration of the abnormal condition. In cases of paralysis of the ciliary branch of the third pair resulting from exposure to cold it is similarly useful. In paralysis of this nerve from traumatic or other causes it is sometimes curative, sometimes only palliative; but even when only the latter, its application, once every day or two, affords much relief in lessening the amount of light, or, in other cases, by reducing the size of the widely dilated pupil gives much satisfaction to the patient from its cosmetic effect. In the hysterical photophobia, which sometimes causes seclusion from light even for years, eserine forms an important part of the treatment.

Having observed a lessening of previously existing injection of the ciliary region after its application (a fact which seems to me important), I should hope for advantage from its use in the commencement of sympathetic irritation of one eye after traumatic injury of the other; but it should be used only as a means of arresting the morbid process after proper measures have been taken for the removal of the source of sympathetic mischief. It, as well as pilocarpine, may be similarly useful in episcleritis. In an instance of extremely conical cornea I have surprised and delighted the patient by the great improvement in vision obtained by the use of eserine.

The obvious effects of the instillation of a drop of a solution of two grains of eserine sulphate in an ounce of water into a healthy eye usually begin to manifest themselves within fifteen minutes. The pupil contracts strongly, becoming, perhaps, not more than a millimetre in diameter; there is often twitching of the lids, and sometimes supra-orbital pain, which, usually slight, may be considerable. Vision is dim, as if the sun were eclipsed. This dimness depends on the narrowness of the pupil, which admits of the passage of only a limited amount of light. There is also spasm of the accommodation, and an induced myopia, which often reaches in a few minutes a very high degree. If this latter is corrected by a concave glass of equivalent power, vision for large objects becomes nearly normal.

These symptoms are usually at their height within an hour, after which they diminish, and at the end of the second hour have in most cases disappeared, with the exception of the contraction of the pupil, which persists for perhaps eight hours or longer.

The above facts are results of my own clinical observation. In the last and the preceding number of Graefe's *Archiv für Ophthalmologie*, vol. xxiii., Parts II. and III., just received, as also in vol. xxii., No. 4, I find accounts of careful and elaborate experiments and observations made by Drs. A. Weber and Mohr, of Darmstadt, Von Reuss, of Vienna, and Professor de Laqueur, of Strasburg, regarding the action of eserine

upon healthy and diseased eyes. These have great value as explaining the *modus operandi* of this medicament, and as affording ground for the belief that it is to prove of extended application in ocular therapeutics, and they confirm in all respects the conclusions I had arrived at.

As regards the effects of eserine upon the cornea, the researches of these gentlemen seem to prove that the activity of the circulation is increased, that the pressure within the anterior chamber is lessened, that the action of accommodation is excited, and that the radius of curvature is shortened during its use. Increased activity in the blood supply, by rendering the cornea more highly vitalized, favors the removal of effete particles and the establishment of a process of repair; the diminished pressure upon the cornea (this pressure being itself a potent cause of ulceration) tends to limit the depth of the ulcer, and lessens the danger of perforation. Dr. von Wecker, of Paris, also believes that eserine prevents the pus from being reproduced in cases of corneal abscess, and in suppuration after cataract operation. We have thus a rational explanation of the benefit derived from the use of eserine in corneal affections.

Dr. Weber considers that the indications for the therapeutic use of extract of calabar bean and its still more efficient alkaloid may be at once deduced from a knowledge of its physiological and, as we may say, mechanical effects. Following these indications in a great number of corneal affections he gives the results, which I translate from his own words: "Calabar has its greatest triumph and its widest application in deep corneal ulceration, and we can assert that the therapeutic value of the means usually employed, such as compressive bandages, warm fomentations, paracentesis, iridectomy, etc., is, with few exceptions, insignificant in comparison with the great efficacy of calabar."

"It appears clearly, from my experiments, that atropine, which is used so generally, and, as I may say, in such a slap-dash manner (*schablonenhaft*), in these affections, increases the infra-corneal pressure to a dangerous degree, and hastens perforation of the corneal ulcer."

Drs. Weber and Laqueur commend the use of eserine, as also of pilocarpine, in glaucoma, not at present, at least, as a substitute for the operative treatment by iridectomy, but as auxiliary means. In their opinion these remedies may arrest the symptoms at the premonitory stage by lessening the intra-ocular tension and relieving the obstructed circulation, and may also prevent a threatened relapse, indicated by a renewal of abnormal tension, after an attack for which iridectomy had been successfully performed.

At the meeting of the Heidelberg Ophthalmologische Gesellschaft in September, 1875, Dr. von Wecker spoke of pilocarpine, the alkaloid of *jaborandi*, as a myotic, and at the Société de Biologie at Paris, October, 1877, Dr. Galezowski stated that he had found the nitrate of pilo-



carpine, which caused no irritation when applied to the conjunctiva, equally as effective as eserine. His experience was confirmed by Dr. Galippe.

In my own experiments, made with the chlor-hydrate of pilocarpine, the results obtained have differed a little from those produced by eserine sulphate, in the facts that less conjunctival irritation, less supra-orbital pain, and less spasm of the accommodative power seemed to be induced, while the contraction of the pupil and the temporary myopia corresponded in degree with those following the use of eserine. In these respects pilocarpine offers great advantages over eserine. It is, moreover, at present, less costly than eserine, and it does not, as does the latter, deliquesce on keeping.

We have, therefore, unquestionably, two myotic agents capable of rendering immense service in ocular affections, and probably of use in other diseases, especially of the nervous system.

It is needless to say that these, as all other remedies, have their limitations of usefulness; in iritis, for instance, eserine and pilocarpine would doubtless be highly injurious, as tending to congest the already distended vessels, and as favoring the formation of adhesions between the iris and the capsule of the crystalline lens.

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## THE RELATIONS OF DIPHTHERIA AND "CROUP."

BY T. B. CURTIS, M. D.

IN an interesting article upon Diphtheria published in the JOURNAL of January 10th, the question of the relations of diphtheria and "croup" is touched upon, and in this connection a statement is made to the effect that "we have the high authority of Virchow that it [diphtheria] is pathologically distinct from croup." Having already some months ago<sup>1</sup> discussed this question at some length, I hope I may be pardoned if I make an attempt to meet this new argument in favor of the view which I then endeavored to oppose.

The name of Virchow carries with it so much weight that many readers will be disposed to accept his statement as final, since it appears to corroborate, by unimpeachable pathological evidence, the nosological distinction which so many observers are seeking to establish. I am convinced, however, that the distinction drawn by Virchow and the German pathologists is not relevant to the question at issue, which is whether a membranous croup distinct from diphtheria can be shown to exist.

Great confusion has been introduced into this question in consequence of the different meanings which have unfortunately been attached to

<sup>1</sup> See the JOURNAL, July 5, 1877, page 4.

the words diphtheria and croup, diphtheritic and croupous or croupal. To avoid ambiguity, it is therefore necessary that these words should be strictly defined before entering upon any discussion of the significance which should attach to the dictum of Virchow mentioned above.

Diphtheria, then, or *cynanche contagiosa*, is a disease, specific and infectious, of which the main characteristic consists in the formation of false membranes upon or in certain mucous membranes, and occasionally also upon abraded surfaces, and which is accompanied by a more or less pronounced condition of asthenia, apparently dependent upon blood poisoning.

Croup, better called membranous laryngitis, is an affection whose nosological position is under discussion. According to some authorities, it exists only as a laryngeal localization, primary or secondary, of the specific disease called diphtheria. Others, however, believe it to occur as a simple inflammatory, unspecific, local disease, characterized by the presence of a laryngeal false membrane, and by the symptoms therefrom arising.

With these acceptations the words just defined have a purely nosological signification, and the derived adjectives (diphtheritic and croupous or croupal) are analogous in meaning, denoting that which belongs to or is derived from the respective diseases.

Another wholly different acceptation has been introduced by the German pathologists, according to which these same designations were applied no longer to diseases, but to pathological processes. As so used by Virchow, the words in question have the following meanings:—

Diphtheritic inflammation, or diphtheritis, is a process, inflammatory, exudative, and destructive, consisting in the formation of a morbid product which infiltrates the diseased tissue and causes its necrosis.

Croupous inflammation is a process characterized by the formation of an exudation which is situated not within but upon the diseased part. The exudation when spread out upon a free surface constitutes a croupous membrane; when confined in small spaces or cavities, it takes the form of croupous deposits.

The contrast between the two typical processes just defined is sufficiently manifest, and the authority of Virchow is not needed to enforce it. But does this purely pathological distinction imply a corresponding nosological difference between the diseases diphtheria and croup? Evidently not, unless it can be shown that the diphtheritic and croupous processes belong respectively to the diseases whose names they have been made to bear. So far, however, is this from being the case that in typical cases of diphtheria the exudation is frequently, if not generally, croupous rather than diphtheritic. So often is the exudation of this character that Oertel, describing four forms of diph-



theria, calls one of them the "croupous form," the other three being the catarrhal, the septic, and the gangrenous forms. Niemeyer describes pharyngeal diphtheria under the name of "croup of the pharynx," adding, however, the statement that there is, in this disease, as it were, a transition between the croupous and the diphtheritic inflammations. Other examples of the croupous process, as conceived by German pathologists, are to be found in lobar pneumonia (called in Germany "croupous pneumonia") and in parenchymatous nephritis ("croupous nephritis").

While the morbid process in diphtheria is perhaps more often croupous than diphtheritic, it is in the intestinal lesions of dysentery that "the prototype of diphtheritic inflammation," according to Niemeyer, is to be found. The diphtheritic process also occurs in a typical form in ulcero-membranous stomatitis. This disease is in nowise connected with diphtheria, although consisting in a diphtheritic inflammation of the mucous membrane of the mouth.

Thus we see that although the diphtheritic and croupous processes are pathologically distinct, it does not follow that the diseases bearing similar names are so also.

It has been alleged that the clinical histories of diphtheria and of croup are very different. So, too, is the clinical history of malignant pustule very different from that of carbuncular fever. No one, however, would infer that they were nosologically distinct. It is, on the contrary, universally recognized that these two affections are but separate manifestations of one and the same disease, which may be associated, succeed each other, or exist alone. In diphtheria, also, either the local or the general symptoms may predominate, so as alone to be apparent. The local lesions, generally originating in the pharynx, and often extending secondarily to the larynx, may from the first be restricted to the latter. In a case of primary laryngeal diphtheria (*croup d'emblée*) occurring in a very young child, and progressing rapidly to a fatal termination by asphyxia, the local symptoms due to the false membrane will alone attract attention. Such a case will be liable to receive the name of membranous croup, having, indeed, all the pathological and clinical features attributed to that form of disease.

In the varying degrees of intensity of the local and general manifestations we find a satisfactory explanation of the variations observed in different epidemics of diphtheria. In such epidemic exacerbations as that now in progress, the malignancy of the disease is often extremely marked, and cases which no one can fail to identify as diphtheria predominate. During the intervals separating such outbreaks the general manifestations are apt to be less conspicuous, the local symptoms caused by the laryngeal membrane predominate, and cases having the characters attributed to "croup" become more common. Similar variations, quite as

pronounced, are observed in all the infectious diseases which occur epidemically, malignant forms of small-pox or of scarlet fever, for instance, differing very considerably from ordinary mild forms of those diseases.

The object of my argument is not, by any means, to assert that the unity of the pseudo-membranous disease is conclusively demonstrated, but to maintain that all attempts to prove its duality have thus far been unsuccessful, whether on pathological or on clinical grounds. It is not impossible that at some future day diphtheria may be divided by nosological distinctions based upon a more accurate knowledge than we as yet possess of the *materies morbi* or of the ætiological conditions under which the disease arises. I am, however, convinced that no criterion, pathological or clinical, has thus far been shown to exist by which we can trace any such line of demarcation as is held to separate croup from diphtheria.

Finally, even if the view which I am opposing should prevail, if it should be maintained that a non-diphtheritic, *non-transmissible* croup exists, every one must, I think, admit that the difficulty of making a correct diagnosis between such a form of disease and certain cases of primary laryngeal diphtheria must be well-nigh insuperable. It would therefore be highly rash to rely upon such a diagnosis to the extent of allowing the precautions considered necessary in cases of diphtheria to be neglected.

For this reason, it seems to me, that in the order of the city Board of Health enjoining upon householders and physicians to report cases of infectious disease, "membranous croup" ought unquestionably to be placed upon the same footing as diphtheria. It is comparatively unimportant, after all, under what names cases are recorded, provided that we are careful to keep on the safe side in matters relating to their practical management.

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## RECENT PROGRESS IN ANATOMY.<sup>1</sup>

BY THOMAS DWIGHT, M. D.

*Lymphatics.* — Among the contributions to our knowledge of the lymphatics we must notice the papers by George Hoggan, M. B., and Frances Elizabeth Hoggan, M. D., presented to the Royal Society of London, of which we have as yet only the abstract.<sup>2</sup> They claim to have discovered the lymphatics of striped muscular fibre. These consist of radicles, reservoirs without valves, and efferent vessels with them. The reservoirs are found on one side of a muscle and the efferent vessels on the other; this is the state in the diaphragm, for instance. We regret that we do not find any account of the radicles. The efferent

<sup>1</sup> Concluded from page 309.

<sup>2</sup> Proceedings of the Royal Society of London. Vol. xxvi., Nos. 178 and 182.



vessels are on the thoracic side of the diaphragm and on the outer side of the abdominal muscles. The authors believe that the lower surface of the diaphragm is an exuding one, and absorbent only under abnormal conditions. They admit the existence of stomata in the serous cavities of the frog, but deny that they are found in mammalia, or that the serous cavities of this class of animals can be considered parts of the lymphatic system.

The same observers have studied also the lymphatics of the skin, and we will now quote the abstract itself: —

“For the purpose of anatomical description they divide these lymphatics into three categories, named from their position the subhypodermic, the dermic, and the subepidermic. Only the first and third can be described as layers; the second consists of horizontal and vertical sets of vessels, extending through the whole thickness of the dermis and connecting the other two distinct layers together. All the lymphatics of the hypodermis, and most of those of the dermis, are valved efferent vessels, without any collecting channels that would entitle them to claim any absorbing function in these portions of the skin through which they merely pass.

“The subepidermic lymphatics are narrow parallel collecting channels, destitute of valves, lying, as their name implies, immediately under the epidermic cells in young animals, though separated from them, as adult life is reached, by bundles of gelatinous tissue. These are the only radicles of the lymphatics of the skin.

“Upon the subepidermic lymphatics they find a rich plexus formed by multipolar nerve cells and non-medullated nerve fibres, the distribution of which to the epidermis has been made evident by the same process. . . . Neither sweat glands, sebaceous glands, hair muscles, fat cells, nor nerve bundles possess any lymphatics, and the papillæ of the human skin are equally destitute of them. Functionally, the lymphatics of the skin are to be considered as forming two classes: the valved efferent vessels with independent walls, formed only of crenated endothelium cells, and the valveless collecting channels of the subepidermis, lined by those crenated cells.

“Upon the facts accumulated in this and their former paper the authors are led entirely to reject the theory of vasa serosa or radicles of the lymphatics, formed by chains of connective tissue cells or the cavities in which they lie. In the human skin especially these cells of the connective tissue are numerous and in intimate relationship with the superficial blood-vessels, but prominently absent from the collecting lymphatic channels lying alongside of these vessels, thus supporting the hypothesis they formerly emitted, that these cells were merely links in a nutritive chain, not radicles of the lymphatics, even when, as in tendon, the cornea, etc., they are connected with the lymphatics.”

The above statements are of sufficient importance to deserve reproduction, but without seeing the illustrations which will appear with the papers when published at length, we can express no certain opinion as to their correctness. We have, however, looked on the stomata of serous membranes in mammalia as so well demonstrated that we shall be slow to give them up. It is remarkable that the authors make no mention (in the abstract at least) of the fat canals described by Dr. Warren.<sup>1</sup>

*The Suspensory Ligaments of the Diaphragm.*<sup>2</sup>—That the under surface of the pericardium is closely united with the tendinous centre of the diaphragm and must oppose its descent into the abdomen is certainly not new, but Dr. E. v. Teutleben has described more thoroughly than has been done the series of fibres by which the centre of the diaphragm is restrained, and has traced them to their origin from the spinal column. It may be as well to reproduce a passage from an article by Béraud which v. Teutleben quotes, but with which he was not acquainted when he began his work. It is as follows: "The uses of this superior ligament of the pericardium appear to me to deserve the attention of physiologists. It holds the pericardium firmly and prevents its descent, so that the name of 'hollow tendon of the diaphragm,' which MM. Beau and Maissiat gave to the pericardium, appears to us perfectly justified. In fact, by means of this insertion, the diaphragm has a solid point of support from the pericardium, which as its descent is limited will prevent too great a displacement of the partition between the thorax and abdomen." As described by v. Teutleben the ligaments of both sides may be divided into an upper and a lower part. The latter consists of a strip of fascia springing from the tendinous centre of the diaphragm lying on the pericardium and reaching the root of the lung. The upper part arises from the last cervical and first dorsal vertebræ, sometimes from several more, and as it descends it splits into two layers, of which the more superficial surrounds the great vessels and passes into the pericardium, while the deeper goes to the trachea and root of the lung, sending, however, fibres into the pericardium. Thus it appears that the functions of these ligaments are not only to hold up the centre of the diaphragm, but to support the thoracic viscera and protect them from too great motion.

*Persistence of Fœtal Blood-Vessels.*—The appearance in advanced stages of cirrhosis of the liver of a number of dilated veins on the abdomen radiating from the navel has long been called the *caput Medusæ*, and in old times was accounted for by the theory that the umbilical vein of fœtal life had been reopened by the pressure of the blood. That a large vein was found in the round ligament in such cases was certain,

<sup>1</sup> JOURNAL, April 19, 1877.

<sup>2</sup> Archiv für Anatomie und Entwicklungsgeschichte, 1877, Heft 3 and 4.



and it was taken for granted that it was the old umbilical vein till 1859, when Sappey asserted that it was impossible for a solid fibrous cord to resume the functions and structure of a vein, and that the enlarged vein, which, to be sure, ran beside the obliterated umbilical vein, was an accessory portal vein which opened into the left branch of the great portal vein. This view has been very generally accepted, but Dr. Baumgarten<sup>1</sup> has recently made some researches which he thinks prove that the old view is the correct one. He states that if a bristle is passed into the vein mentioned by Sappey at its opening into the left branch of the portal vein, and then microscopic transverse sections made, we find that the bristle is inside of the old umbilical vein, which has been partially obliterated by a growth of connective tissue around it. The structure of the walls of the umbilical vein is easily distinguished from ordinary subperitoneal veins by the typical arrangement of the muscular fibre in its walls. The cavity, lined with endothelium, can be distinctly made out to near the abdominal wall, and later the remains of the closed vessel to the end. Sometimes the vessel is large enough to admit a probe for an inch or two. The vessel, as a rule, contains fluid blood, which reaches it by small veins. Pathological cases of enlargement of the vein have confirmed Baumgarten in his opinion that it is really the umbilical. He has made observations, which, however, are not yet completed, on the ductus venosus, which he finds as yet in every instance to contain a small cavity filled with normal blood corpuscles. Whether in all cases this keeps open, though on a very small scale, the direct passage from the portal to the hepatic vein is, we think, still uncertain.

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## PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

A. L. MASON, M. D., SECRETARY.

NOVEMBER 24, 1877. Eighty members were present, Dr. HOMANS, the president, in the chair.

*Report of Committee.* — The committee appointed to remonstrate against the reopening of Jourdain's "Anatomical Museum" reported that they had appeared before the licensing committee of the city board of aldermen, and that the case had been presented in full at a meeting of the Natural History Society. The result was that no license was granted.

*Water-Closets.* — DR. N. FOLSOM showed an improved water-closet bowl, suited for any pan-closet, described by him in an essay on Hospital Construction written for the Johns Hopkins Hospital, and now made by Harrison & Co., 16 West Fourth Street, New York. The upper rim of the bowl is expanded into a shallow sink or drip tray eighteen inches square, which is fully displayed on lifting the ordinary seat, and which replaces the sheathing

<sup>1</sup> Centralblatt für die medicinischen Wissenschaften, October 6, 1877.

of lead which is commonly used. The incrustation of offensive material usually found upon and under the lead is thus avoided, and every part can be readily and thoroughly cleaned and made odorless. It is intended as a slop-sink, and to replace the ordinary urinal, which is a source of offense from the collection of urinary salts at inaccessible points, and from exhalation from the portion of pipe between the strainer and the trap below. The wood-work should slope in, in front of the water-closet at the floor, about three inches, to give room for the feet of the person standing before it.



Domestics often do not know that a water-closet bowl should be washed throughout as frequently as a hand-basin. Hot water and soap and sometimes a little sand are necessary to remove urinary incrustation, which will deposit in spite of a stream of cold water.

Public attention has recently been called to the necessity of carrying the soil-pipe up through the roof above to prevent the regurgitation of sewer gas. In pan-closets there should also be a vent-pipe leading from the receptacle below the pan up to the roof. This pipe may be conducted into the soil-pipe above, but this method is open to the objection that it invalidates the trap beneath it. The regurgitation of offensive air when the handle is raised is avoided by either arrangement. The Jennings closet and others are advocated as doing away with this receptacle below the pan, but if this space is furnished with a vent the objection to it vanishes, and the pan-closet seems likely to retain its reputation of superiority as being less liable to get out of order, while it can be rendered absolutely inodorous by proper arrangement. The pan is now made with porcelain lining. The Jennings closet was tried at the Massachusetts General Hospital, but did not prove satisfactory. An incident showing its defective action was the finding of portions of feces tainting the air by floating in the exposed surface of water above the "plug" which closes the outlet. For hospitals, where it is uncertain what may be thrown in, a "hopper" closet without pan or receptacle is preferable, the deposit dropping directly into an S trap flushed with a very large and sudden supply of water both by moving a handle and automatically by opening the door.

A source of offense during and after the use of a closet is the gas which passes from the bowel and the immediate odor of the feces. Ventilation of the room is necessary, and a window is *not* the best means. There are few closets so situated that a tin pipe cannot be carried from below the seat to a chimney. If this be the kitchen chimney a draught is certain, but if warm air is supplied to the closet by a register or by an opening from a room well supplied, and *there is no other exit*, the draught is equally secure. A *supply* is needed in any case. Frequently a ventilator is placed in the wall or ceiling



of a water-closet, but the proper way is to seize the odors *where they arise*. The seat should rest on cleats, leaving an inch of space always open above the bowl, connecting with the tin pipe behind, the draught being horizontal from front to back.

DR. ELLIS said that if the valve of the Jennings closet became in the least out of order the water would be drained from the largest cistern. This had happened at the Massachusetts General Hospital.

DR. BOWDITCH had found the Jennings closet satisfactory, and much neater in appearance than the ordinary closet. Care was necessary in shutting the valve.

DR. AYER inquired with regard to the efficacy of the usual tin ventilating pipes communicating with chimneys.

DR. FOLSOM thought that earthenware or lead was better, as there was no corrosion. A register or space below the door to admit air was essential.

*Disease of Knee.* — DR. M. E. WEBB reported a case of disease of the knee-joint, and showed the specimen. The case is reserved by the author for publication.

*Naso-Pharyngeal Polypus.* — DR. CHEEVER presented a patient from whom he had removed a large naso-pharyngeal polypus by depressing the nasal bones. There was complete recovery, with perfect union and natural voice, in three weeks. Dr. Cheever will publish a full report of the case.

*Intestinal Cast.* — DR. WING showed a cast of the intestine, a yard and a quarter long, which had been passed by a woman who had suffered for a few days from colic, to relieve which laudanum had been used. There had been no diarrhœa, and the cast was evacuated without pain.

DR. A. N. BLODGETT, who had examined the tube microscopically, said that it presented the appearance of a mucous exudation, the previous cellular wall having undergone fatty degeneration. It might easily, on hasty inspection, have been taken for part of the intestinal canal.

DR. WING mentioned a similar case, in which the tube had been regarded as a portion of the bowel, and an unfavorable prognosis had been given.

DR. JACKSON spoke of the diarrhœa tubularis of Good, and said that he had seen a few such cases himself. He regarded the exudation as similar to that which sometimes takes place in the bronchial tubes.

DR. N. FOLSOM said that he had expelled mucous casts from his own throat, of arborescent form, and exactly similar in appearance to the fibrinous casts.

*Artificial Limbs.* — MR. JAMES W. DRAKE exhibited to the society specimens of his improved artificial limbs.

*Pneumono-Dynamics.* — DR. D. HUNT read the following criticism on Dr. Garland's paper on Pneumono-Dynamics: —

While in conversation with Dr. Garland, after the adjournment of the last meeting of the society, I informed him that I disagreed with the opinions that he had just presented; <sup>1</sup> this led to a pleasant discussion and a proposition on my part to review his theories before this society. Dr. Garland consented, but I had no sooner commenced the arrangement of a line of argument for demonstrating my opinion than I was sorry that he had done so, for I found myself com-

<sup>1</sup> See JOURNAL November 29, 1877.

pelled to state some mistakes of his that concerned very elementary facts. It was, then, a great relief to me when, a few days later, Dr. Garland called upon me, and stated that he had found some mistakes in his interpretation of certain experiments, and requested me not to notice his paper before this society; to this I readily agreed. I was surprised, therefore, when, last week, he repeated his invitation for me to criticise his views at this meeting. Having expressed myself quite forcibly as to his errors, I knew of no way of refusing without leaving a false impression in his mind. I make this statement at some length, since these views of Dr. Garland, having received the public sanction of an authority so eminent as Professor Ellis, and being embodied in a work now almost through the press, might well be left to that public judgment that in the end decides the value of all new opinions. In appearing to-night in anticipation of such public judgment, it will be understood that the occasion is not one of my own seeking.

My thanks are due to Dr. Garland for the advance sheets of his forthcoming work, as far as they concern his theory and the experiments by which he supports it.

I translate from Hermann's *Physiologie des Menschen* the following account of the physiology of respiration: "The lungs in the body are inclosed in a rigid reservoir of great volume (thorax) in such a manner that between their outer surface and the inner surface of the containing cavity, or, more exactly speaking, between their pleural covering and the pleural lining of the thorax, there is no air, and none can enter. The pressure of the atmosphere must therefore distend them in opposition to their elasticity beyond their natural volume, so that they are everywhere in immediate contact with the wall of the thorax, and are thus during life always filled with air; if air enters into this space between lung and thorax wall, the lungs collapse by means of their elasticity.

"Not only lungs, but heart and blood-vessels contribute to fill the space of the thorax; atmospheric pressure is working upon the inner surface of all these organs: upon the lungs directly (by communication through trachea, etc.), upon the heart indirectly, since the whole body, and consequently the blood-vessels without the thorax, are subject to atmospheric pressure and communicate it to the contents of the heart. As the same pressure is thus developed in all the hollow organs in the thorax, these are stretched in proportion to their elasticity: the most easily distended organs, the lungs, thus contribute most toward filling the thorax, are most stretched beyond their normal volume, the thick-walled ventricles of the heart the least (scarce perceptibly), the thinner-walled auricles and venous trunks to a greater degree. The yielding portion of the wall of the thorax upon whose outer surface atmospheric pressure is working must also by bending inward contribute somewhat towards filling or rather lessening the thoracic cavity. Thus diaphragm and intercostal soft parts are arched into the thorax."

A little farther on Hermann says: "The elastic power with which the lungs, distended to fill the thorax, endeavor to attain their natural volume, that is, their negative pressure in the thorax at rest, may be measured by fixing a manometer air-tight in the trachea of the subject, and then opening the thorax; it amounts to about six millimetres of mercury (Donders)."



Notice that the negative pressure of the lungs does not become a positive or working power until the thorax is opened and atmospheric pressure acts alike upon outer and inner surface; until this equilibrium is established the lung gets its six-millimetre negative power by being distended by a seven-hundred-and-sixty-millimetre positive power (atmospheric pressure).

Dr. Garland's first proposition, in 1874, was "the lungs seem to be the molding agent" in case of effusion into the thorax; "they in some manner resist the encroachments of the fluid." "The irregularities of the upper part of the model were explained by the supposition that the fluid spurted up in parts where the pulmonary resistance was least." But he goes on to say, "Mature deliberation, however, convinced me that the conclusions were incorrect, because the lung is a non-resisting body, and therefore cannot exert counter-pressure." (Pages 28 to 30.) If the lungs are non-resisting, they they are the first non-resisting solid that I have heard of.

Dr. Ferber, it seems, could not satisfy himself with such facility of this character of the lungs, so he proceeded to revise Garland's experiments that he might by observation determine the rôle played by the lung in influencing an effusion into the thorax.

(1.) He states the necessity of making experiments upon living, breathing animals, since the distribution of the exudation cannot depend upon either gravity or lung elasticity alone, but must be also dependent upon the movements of the lung as a whole. (2.) A substance must be chosen that solidifies slowly, that there may be time for a proper distribution of the fluid; to fulfill this indication he chose cocoa butter. (3.) The animal must be kept alive fifteen minutes without having spasms or convulsions. (4.) Injections must be made with the animal in different positions, that the results may be of value as proof. (5.) The material must be introduced in a manner that will avoid all strong pressure, for by this means local atelectasis may be produced. (6.) Air must not be admitted. (7.) The most important experiment of all to Ferber, the all-controlling one (page 35), was dissecting away skin and muscles, and thus making a window of the costal pleura, through which he could watch the movements of the lungs and the fluid in the pleural cavity.

With all these conditions in mind he proceeds to answer this question, What forces are effective in shaping and bounding the exudation not restrained by adhesions? (Page 36.)

He then made injections, under these conditions, which Dr. Garland afterwards adopted in his experiments; as a natural consequence, Ferber's and Garland's models are essentially alike; the question of their interpretation is that which occupies us this evening.

Ferber concluded as follows from the study of his models and from watching the action of the injected fluid through the window which he made in the wall of the thorax:—

"The position of the exudation as a whole is undoubtedly chiefly caused by the gravity of the exudation itself and the position occupied by the animal experimented on." (Page 36.)

Garland's idea of 1874 is disproved by Ferber by the following arguments, which Garland has never answered:—

"The inner surface of the injection, that is, the impression of the compressed lung in the model, represents, to a certain extent, but in lessened proportions, the form of the normal lung. That this lessening is not caused by a lung retracting equally in all directions is shown not only by the position of the model, but also by the unequal thickness of one and the same model in different places. If the lung retracted equally, or, in other words, if the distribution of the exudation depended upon the resistance of the equally retracting lung, then the fluid must from the beginning spread itself in nearly equal thickness all around the lungs; that this is not the case is proved by the model."

Thus Dr. Ferber disproves the idea that the lung is the distributing power by showing that if it were we should get a cast, in the model, of the almost symmetrically contracting lung. In passing, let me say that Dr. Garland appears to be in error in regard to the anatomy of the lungs; he says (page 62): "From the application of this principle of the interpretation of our models, and from our knowledge of the anatomy of the lung, we now know that the lower part of the lung, being most distended, attracts to itself fluid to the deprivation of parts less energetic."

Ranke's *Physiologie* (3te Auf. page 451) speaks on this point as follows: "S. Stern concludes that during inspiration a certain inequality in the distention of the lungs occurs which is the more considerable the greater the activity of the thoracic walls. In general the *superior lobes are more distended than the inferior*, and especially in the neighborhood of their anterior border. The reason for this is that the resistance of the distended lung is not able to change the form of the rigid or nearly rigid wall of the thorax, and the unequal distentions effected by the wall of the thorax itself can be only partly canceled by the accompanying action of the diaphragm."

I can find no explanation of Dr. Garland's present position, excepting that he has not fully comprehended the nature of the arguments with which Ferber upset the views which he put forth in 1874. If he had, I do not believe that he would state his present theory of pneumo-dynamics, for by this theory he imagines that the lungs actually suspend the column of fluid by virtue of their retractile power; but the retractile power depends upon the degree of distention of the lung, which is all the time decreasing while the amount of fluid is all the time increasing; that is, this power of the lung, which is being obliterated by the encroachment of the fluid upon the space which is essential to its development, is doing a continually increasing amount of work in sustaining an increasing weight of fluid.

We will quote from Dr. Garland's book his translation of Dr. Ferber's account of two of his models, together with his comments on Ferber's description:—

"Model I. Obtained with the dog lying upon his back. The fluid lay along the vertebral column, and showed *no depression* of the diaphragm. The external upper border presented slight pointed projections and ran *nearly* parallel with the axillary line, that is, nearly horizontal. Injection through ninth intercostal space in the axillary line of the right side. Large dog."

Having thus translated Ferber, Dr. Garland comments as follows:—



"The italics in this and in the other quotations of this chapter are my own. Now a fluid whose upper edge runs 'nearly' horizontal, and presents even slight pointed projections, can scarcely be said to have assumed a hydrostatic level. No fluid can change its level voluntarily. However slight may be the deviation from a horizontal level, that deviation indicates the interference of some external agency."

It will be seen that Dr. Garland implies in this comment that Dr. Ferber says that the surface of the fluid assumes a hydrostatic level; this is doing great injustice to Dr. Ferber. I have searched his monograph thoroughly, and can say that he states nothing of the kind. It is Dr. Garland's idea of a hydrostatic level that is at fault; he supposes that when Ferber says "nearly horizontal" he means nearly a hydrostatic level, but if Dr. Garland had thought of the very elements of hydrostatics he would not have spoken of such a level as appertaining to a fluid which is bounded on every surface by solids; the respect due to his cultured antagonist, who is in this very monograph writing for his "*venia docendi*," should have restrained him from imputing such crass ignorance to him. But Dr. Garland not only misinterprets Ferber upon this point, indeed his whole book is based upon just this misapprehension.

Dr. Garland thus translates Ferber's description of his fourth model: "Injection in the axillary line of the right side, ninth intercostal space. Position perpendicular upon head. The exudation sat like a hood upon the apex of the right lung, and was limited by a superior horizontal line."

Dr. Garland comments as follows: "I made no injection under the condition named with the model, but the results obtained are precisely what I should expect from the principles which I have already explained. The apex of the lung is not concave like the base, but it is convex; hence the mutual adjustments of apex and injection coincide with those of balloon and water in Experiment I., Chapter III. If the water in the flask should solidify, the model would appear like a hood upon the balloon. Moreover, its upper border is horizontal because the line of cleavage between the balloon and the glass is horizontal, and not because the specific gravity of the water places it so. The superior surface of the water, however, — and this is the striking feature of the experiment, — is *concave*. The superior surface of Ferber's model was also concave, because Ferber says it rested upon the apex *like a hood*. How can a fluid whose superior surface is concave be in a state of stable equilibrium?"

Dr. Garland imputes to Ferber the absurdity of supposing that a hydrostatic level exists; in this instance as in the former it is Dr. Garland's misunderstanding of the definition of a hydrostatic level, and his interpretation of Ferber by this mistaken idea, that is at fault. A perpendicular to a hydrostatic level is always directed toward the centre of the earth, but a perpendicular to a horizontal surface of water that is confined, that is not free, is merely an axis of the vessel which contains the fluid.

But let us examine Dr. Garland's models and their interpretation by his theory that the lifting power or elasticity of the lungs raises columns of fluid above the hydrostatic level of such fluid, — in other words, his problem of pneumo-dynamics.

"Model II. The merest glance at the model will be sufficient to show that the line C D represents the imaginary hydrostatic level of all fluid below it. I speak of fluid, because it will be remembered that at the time the adjustments represented in the model were made the cocoa butter was in a fluid state. The youngest child who had studied the very elements of hydrostatics would perceive that the body of fluid above C D does not present a hydrostatic level. On the contrary, the perpendicular lines  $x\ y$ ,  $x'\ y'$ ,  $x''\ y''$ ,  $x'''\ y'''$ , etc., represent columns of fluid, which, by some agency or other, are elevated above the level which their specific gravity gives them, and the sum of all these lines represents a body of fluid sustained by some invisible agency above its natural level. Let us see if we obtain the same condition of affairs in our other models." (Page 24.)

Thus, although every imaginable layer of the body of fluid above C D has the most solid basis, resting as it does on the layer below it, Dr. Garland considers it as "sustained by some invisible agency above its natural level."

"Model III. Dog inclined at an angle of about  $45^\circ$ . Large injection in ninth intercostal space of the left side. A thin portion of the model, corresponding to the small space A B D E was destroyed in removing the mass from the chest. Now if we draw the line F D E G we shall represent the hydrostatic level of the body of fluid below it. The two masses above that line, however, F K A and E M G are evidently in a state of inequilibrium which no principle of hydrostatics can explain. The blank space above K A B M was occupied by the lung, and the latter was still in contact with the chest wall." (Page 26.)

Here is a still more striking evidence of Dr. Garland's confusion as to what constitutes a hydrostatic level; he runs an imaginary horizontal plane through a body of liquid inclosed in a given space, and against all laws of physics considers such a plane as representing a hydrostatic level, and all fluid above it in a state of inequilibrium. Fluids shut in on all sides have no hydrostatic level; such a level is only possible in an open or a partly filled closed vessel.

Dr. Garland proceeds: "Model IV. Dog horizontal; very large injection. Here we have once more the same condition of affairs. Horizontal line A D represents the hydrostatic level of all the fluid above it, but all the fluid above this line seems to have no possible means of support. B M N C is a large surface of the lung which was still in contact with the chest wall. Now the question arises, What force supports the two columns K L and H I? If we have two flasks communicating at their bases by a tube, and we pour water into one flask, it will pass through the connecting tube until it stands at the same level in the second flask. One might say, therefore, that the columns K L and H I communicate at their base through the vertebral groove, and that they thus balance each other, though they cannot stand at just the same level because of the slope of the chest wall. This explanation will not apply to our model, however, because if the two columns K L and H I were in a state of mutual balance the columns E P and F R ought to be similarly related to those columns, since they also communicate at their base with the fluid in the vertebral groove."

Dr. Garland comments as follows: "We see, therefore, that one constant



phenomenon is exhibited in all our casts. Large bodies of fluid are supported above their hydrostatic level by some agency not yet discovered. No principle of hydrostatics will explain this phenomenon. No change of position can effect it, since the condition of hydrostatic inequilibrium is constant in every position which the animal assumes."

Dr. Garland says "no agency is yet discovered" to account for, and that "no principle of hydrostatics will explain this phenomenon;" the latter statement is true, for the problem does not concern hydrostatics at all. Hydrostatics is that part of science that treats of fluids at rest; but a fluid exerting a pressure in every direction in its effort to reach a stable equilibrium, the effects of whose pressure we see in bulging thorax walls, a dependent diaphragm, and a collapsed lung, can hardly be said to be at rest. If, however, he should make a careful application of the laws of the action of gravity to his problems he will find a key to their solution which will relieve him of the task of discovering a new law or principle in the pretty well cultivated domain of hydrostatics.

Dr. Garland might say that he merely refers to imaginary hydrostatic levels; if this is the case it follows, of course, that the conditions of inequilibrium and the forces creating it are also imaginary, for these exist only in virtue of the existence of the hydrostatic level.

To repeat our objections, the fluid must have a free surface; that is, it must be exposed to air, or gas, or a vacuum, in order that it may have a hydrostatic level. There is no air in the pleural cavity, and none can enter; the same applies to gas, unless such gas results from decomposition; it would, of course, be needless to think of any retractile power of lung in such a case. As to a vacuum, if the lung is lifting a column of fluid, it lifts just as a pump lifts; but such a force will lift for thirty feet, and no vacuum can be formed over fluid lifted until after this point is passed. No thorax is thirty feet high, consequently, no such vacuum is possible. We have thus exhausted all the conditions under which such a level is possible in the thorax, and find that none apply to the pleural cavity; therefore, the fluid in such a cavity cannot assume a hydrostatic level, and if no such level is possible no fluid can be said to be lifted from it.

To recapitulate. Dr. Garland states that —

(1.) The lung is a non-resisting body; but we know that it is a solid, having form and structure. It is, then, a resisting body. This requires no proof.

(2.) He assumes a hydrostatic level in a fluid which is bounded on all sides by solids. This all physicists will admit is against every principle of physics.

(3.) The experiments were so crude, considering their object, that it is impossible to determine whether the lung at the time the cast was made was exercising any retractile force whatever. The experiments, as described, fail to show that at the time the cast was formed (that is, at the time the cocoa butter solidified) the lung was exercising any "retractile" force. For although investigating a force represented, at best, by a column of mercury only a few millimetres high, Dr. Garland has omitted to notice, on the one hand, the pressure of the atmosphere (that is, barometric height), a force represented by more than seven hundred millimetres of mercury, and tending to resist com-

pression of the lung; while on the other hand he does not state the compressing force, namely, the force with which the injection was introduced. Now we know by the experiment of Donders that the lungs when *fully expanded* against the walls of the thorax tend to contract with a force represented by six millimetres of mercury; we know also that when air is admitted into the thorax, or when the lungs are removed from the body, they contract to a certain volume and then have no farther retractile power; again, subject the lungs to any external pressure greater than that of the atmosphere and they will be compressed, and will then exercise an expansive rather than a retractile power.

Thus Dr. Garland's experiments are failures as means of demonstrating his theory, since he gives us no observed facts by which we can determine by physical laws whether the action of the lung was retractile (lung distended beyond its natural volume), inactive (lung at normal volume), or expansive (lung less than normal volume) at the moment when the casts were formed.

(4.) Under known physical laws the cast would assume no other form than that which it did assume. For the liquid as it enters, whether introduced by atmospheric pressure, effusion, or the syringe, makes a cavity for itself by displacing the material offering the least resistance; the lung gives way and the fluid enters. As the liquid is now bounded on all sides by solids it is physically impossible that it should assume a "hydrostatic level," but it must conform to the walls which inclose it. (See Proposition 2.)

(5.) The change of form of the cast caused by injection in the different positions of the body is the effect purely of the relative specific gravities of the solid lung and the liquid injection. We can show this by means of this bottle containing water and a bit of cork which is fastened by thread to the cork stopping the mouth of the bottle. If the cavity of the thorax contains a fluid (water, melted cocoa butter, or any other fluid) and a solid (the lungs) of a less specific gravity, can any one doubt that, whatever the position of the body of the animal, the lighter body, the lungs, like the bit of cork in the bottle, will rise as high as the surrounding walls or its attachments will permit?

These appear to me the fundamental errors in Dr. Garland's theory; those of you who read his work will admit that I have not touched upon many minor ones. The facts that the dean of our medical school has stated that Dr. Garland's ideas are to be demanded of the students in their examinations,<sup>1</sup> and that they have been presented here without being discussed, are my apology for occupying so much of your time this evening.

On page 57 of his book Dr. Garland speaks as follows:—

"No further evidence can be needed to prove that the results which Ferber obtained are identical with those which I obtained and have described. Ferber's thoughts, however, seem to be riveted upon one idea, namely, that the body of the injection seeks and occupies the lowest parts of the chest, and he utterly fails to appreciate the significance of the upper part of a fluid being maintained by an invisible support in a condition of hydrostatic inequilibrium."

<sup>1</sup> The dean of the medical school said at a subsequent meeting that this statement on the part of Dr. Hunt was the result of a misapprehension of the facts.



Need I say that in the light of the facts here presented Dr. Ferber interprets the phenomena according to natural laws, and that Dr. Garland's "thoughts seem to be riveted" to an imaginary but impossible hydrostatic level to such an extent that he cannot recognize the important action of that force which keeps us all from flying off at a tangent into chaos?

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### THE DIPHTHERIA QUESTION.

THE arguments in favor of considering "membranous croup" and diphtheria identical diseases have been forcibly stated by Dr. Curtis. Dr. Seitz,<sup>1</sup> after an active practice of forty years, in a city where diphtheria is almost endemic, has been led from his experience in the polyclinic and his observation of several hundred cases, beside having spent some time in studying the disease in Paris in 1867, in Vienna in 1875, and in various other places at different times, to agree with Jaccoud, Oppolzer, and the distinguished epidemiologist Hirsch, that the one is a purely local malady and the other a constitutional disease. He also quotes Virchow, as we have done, in support of his position that there is an anatomic pathological difference between the two morbid processes. We do not care just now, however, to take the time of our readers in discussing the question of the identity of the two diseases, or in arguing whether or not pathological distinctions should be an important guide in the nosological arrangement of diseases. While acknowledging that the relationship between diphtheria and croup is far from being satisfactorily elucidated, and that a sharp dividing line between them cannot always be established, it seems to us that the balance of opinion among men who have large opportunities of observation is decidedly with Seitz. Virchow, for instance, whose views on the pathological side of the question have already been referred to, in reviewing the mortality of Berlin, speaks of "croup, diphtheria, diarrhœa, measles, scarlet fever, puerperal fever, etc.," as the diseases that have steadily increased in prevalence and fatality; this he hardly would have done, if he considered croup and diphtheria identical.

Among the health boards reporting diphtheria and croup under different heads are those of Glasgow, Dublin, Belfast, Brussels, Pesth, Vienna, Paris, Naples, Berlin, Breslau, Amsterdam, Copenhagen, St. Petersburg, Alexandria, Milan, and throughout England; in this country that practice is almost universal, if not quite so. Dr. Farr, in his last report, speaks of diphtheria as having formerly been confounded with croup. Hamburg, Dresden, Munich, Rome, Turin, Venice, are the only cities which we can find on our lists where the two diseases are reported together; typhus and typhoid fevers are still returned in a similar manner in some places.

In England diphtheria is now commonly classed as a filth-disease; croup is not. The admirable state board of health of Holland require, in all cases, the following infectious diseases to be reported: small-pox, varioloid, scarlet fever, measles, typhus fever, typhoid fever, cholera, diphtheria, and dysentery; not

<sup>1</sup> Bibliothek für Wissenschaft und Literatur, 19 Band. Medicinische Abtheilung, 3 Band. Diphtherie und Croup, geschichtlich und klinisch dargestellt von Dr. Franz Seitz, ord. Prof. der Med. an der Universität München. s. 516. Berlin, 1877.

croup. In Brussels, where sanitary science has advanced to a point unparalleled in this country or in England, laws regulating the spread of infectious diseases have existed since 1818; and by the latest circular of the Bureau d'Hygiène (December 31, 1877) physicians are advised to report all their cases of small-pox, scarlet fever, measles, typhoid fever, typhus fever, cholera, diphtheria, and epidemic dysentery; not croup. An order has just been passed in Vienna requiring, in diphtheria, isolation of the sick, thorough disinfection of the houses, removal of the patients to the hospital, if they have not room at home, transportation of the corpses at once to the dead houses, free distribution of disinfectants to the poor, and *daily* reports of the progress of the disease to the city physician; croup is not included in the order.

If the Boston Board of Health believe, as they have pretty good authority for doing, that typhus and typhoid fevers, diarrhœa and dysentery, as also croup and diphtheria, are distinct diseases, of which, in our city, typhus fever and diphtheria alone are so dangerous to the public health as to require interference on their part, will they not do a better work in the end, and are they not more likely to meet hearty coöperation from physicians and success in their plans, if they make their requirements correspond with their belief, although the above-named diseases are often confounded? In this connection we wish to repeat our statement that diphtheria should be treated with the utmost precaution, so far as steps for preventing contagion are concerned. The Board of Health would be justified, in our opinion, in much stronger measures than any they have yet taken, even to requiring immediate burials after death, and to forbidding public funerals in so grave a disease. Such extreme measures have been taken elsewhere, but we do not know of a single board of health where "membranous croup" has been included with diphtheria in any regulations for restricting infection. There is no evidence known to us that diphtheria is ever transmitted from a person suffering with "membranous croup." The very opposite is true of severe and mild cases of scarlet fever, which have been cited as analogous to diphtheria and croup.

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#### MEDICAL NOTES.

— The attempted cultivation of the cinchona-tree in Australia is, from climatic reasons, a complete failure.

— The dean of the Paris Faculty of Medicine states that but thirty-five women have studied medicine in that city since 1865, of whom nine have diplomas, and twenty-three are still studying. Of the latter six are English, twelve Russian, and five French.

— The death-rate in St. Petersburg for the last week in January was forty-six per one thousand, higher even than the Bombay rate.

— Dr. Wilson Fox, having been informed by the council of the British Medical Association that women cannot be excluded from the meetings of the association, has withdrawn his name from the list of members, and others are likely to follow his example.

— Italy, as yet, has no pharmacopœia; a compilation by Professor Orasi



having been generally employed. The *American Journal of Pharmacy*, quoting the *Pharm. Zeitung*, states that a commission for the preparation of the needed work has been appointed by the government, and was organized at Rome in October, 1877, Senator Connizaro, professor of chemistry in the University of Rome, being the president.

— Dr. Lievin, in his annual report, shows that the death-rate of Dantzic for the years 1863–69 was 36.85 per 1000; 1870–71, 36.33; 1872, 31.27; 1873, 26.25; 1874, 24.99; 1875, 30.44; 1876, 28.67; 1877, 28.10. There has been an improvement in the public health from the introduction of sewerage and a pure water supply, but not so great as in England. The mortality from phthisis has steadily increased from 20.5 per 10,000 in 1863–69; 25.0 in 1870–75, and 25.41 in 1876 to 27.21 in 1877, in spite of the drying of the soil by the sewers. The death-rates for single streets, blocks, etc., reached the enormous figures (per 1000) of 68.5, 73.2, 65.8, 70.0, 70.3, 75.2, and 63.9. In individual houses even one tenth of the occupants died within the year.

— The twenty universities of Northern Germany cost the country annually about two millions of dollars. The University of Leipsic alone receives two hundred and fifty thousand dollars. These twenty universities have a staff of twelve hundred and fifty professors, who receive salaries varying from five hundred dollars to three thousand dollars. The young man who embraces the career of teaching can calculate on having a salary of two thousand dollars when he reaches the age of thirty-five. He is certain also of a pension when retired. Germany has a university for every two millions of inhabitants, Austria one for five millions, England one for seven millions, and Switzerland one for one million.

— With the completion of the new fever hospital at Belvidere, lately dedicated, Glasgow is probably the best supplied with hospitals for infectious diseases of all the cities in the world. The hospital treatment for such maladies began there in 1865, in a series of airy, temporary buildings, under the able direction of Dr. J. B. Russell, now medical officer of health for the city. Unlike the English custom, which places fever hospitals under the Poor Law Board, the Glasgow system is to have them controlled by the sanitary authorities. The new buildings have entirely separate departments for the different infectious diseases, and suitable accommodations are made for private patients as well as for the pauper class. The floors are of Dantzic oak, waxed; the walls are finished with Keene's cement, as being considered the least liable to retain infective material. In six years the inspectors of the Board of Health have made 1,366,708 house-to-house visitations, thereby discovering 14,200 cases of infectious disease, which are never lost sight of until removed to the hospital, or, when circumstances admit of their being treated at home, until convalescence. The result, largely due to this thorough treatment, but partly, of course, arising from better general sanitary conditions, is that, from typhus fever alone, there were 3994 deaths in the five years previous to the establishment of the hospital, estimated to represent 33,300 cases, with an average population of 412,500; and that in the five years ending with 1876 there were only 553 deaths, estimated to correspond to 4600 cases, with a population of 520,000. Here is a saving of 4450 lives, and 37,400 cases of sickness from one disease in five years.

— In France, notwithstanding so many persons believe that wine-drinking prevents drunkenness, they have seen the need of passing the following law : That every one condemned twice by the police for the crime of open drunkenness is held to be incapable of voting, of elective eligibility, and of being named for the jury or any public offices.

— The *Medical Brief* says : It has been noticed in several cases that when one quarter of a grain of morphine would not produce sleep, if ten grains of quinine were administered a short time previous to administering the morphine, the morphine would almost invariably act efficiently. This fact was noticed in connection with puerperal cases.

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### DR. JOHN E. TYLER.

“ DIED, at his residence in Boston, on March 9th, John Eugene Tyler, M. D., aged fifty-eight years.”

Dr. John E. Tyler was born in Boston on the 9th of December, 1819. He was the second son of John E. and Hannah Parkman Tyler, of Westborough. His father, a graduate of Harvard in 1786, was educated a physician, and practiced his profession for some years in Westborough, but afterwards became engaged in business in Boston. Dr. Tyler, the subject of this notice, was himself early destined to a mercantile life ; but though he developed an aptitude for business, which served him a good turn in hospital management later, he cherished a similar repugnance to that of Charles Lamb for the “ desk’s dull wood,” and soon quitted the servitude of the counting-room for the more congenial realm of study.

His preliminary education was begun under the auspices of Rev. Dr. Kirtledge, in Westborough, and continued at Leicester and Phillips (Andover) academies. He entered the freshman class of Dartmouth College in 1838, and graduated in due course and with high honors in 1842. This class numbered one hundred and one, being the largest as it was in other respects one of the most noted in the history of the college. Here Tyler gave evidence of that ready wit and humor which has always been a conspicuous element in his nature, and which, added to brilliant scholarship, gained for him an immense popularity in his class. Here, too, shone forth those varied accomplishments known only to his most intimate friends in later years. He was foremost in all athletic games and sports, — running, leaping, skating, swimming, and the like. He was a fine musician in the best acceptance of that term, a singer, and an adept upon several different instruments. During his senior year he was president of the Handel Society, a college institution almost coeval with the beginning of the present century, and of no mean pretensions even when judged by the high standard of the choral societies of the present day. He was also a good writer, and an easy and graceful speaker, and on this account, conjoined with his rank in scholarship and general popularity, was made president of the United Fraternity, one of the two leading literary societies of the college. He was also a member of the Phi Beta Kappa and Psi Upsilon Chapters, access to which in those days was gained only by merit.

Almost immediately after his graduation from college he went to Newport,



R. I., where he taught school for a short time, and then entered upon the study of his chosen profession, under the guidance of the late Dr. Dunn, of that city. He subsequently attended a course of medical lectures at Hanover, and two sessions at the medical department of the University of Pennsylvania, in Philadelphia, at which latter institution he graduated in the spring of 1846. He also received a medical diploma at Hanover. As a student of medicine he was most assiduous at his tasks, and attracted the favorable notice of the professors. At the final examination for a degree in the university the strictness of the ordeal was often in proportion to the presupposed fitness of the candidate. If his record was a good one, the student was let off easy; if otherwise, he was ground as between the upper and nether millstone. In Tyler's case, when he came before the venerable Dr. Chapman, he was asked the two following questions: (1.) "*What are tormina?*" This being answered satisfactorily, (2.) "You have studied with my old friend, Dr. Dunn, of Newport. *Are there as many pretty girls there now as there were forty years ago, think you?*" This being answered in the affirmative, for aught he knew to the contrary, "That's enough," said the professor; "I shall vote for you with all my heart."

Dr. Tyler now entered upon the practice of his profession at Salmon Falls, in New Hampshire. While there he was sent to the state legislature, and was soon called to take charge of the New Hampshire Asylum for the Insane, at Concord, in which position he remained some five years, when he was appointed to the honored post of physician and superintendent of the McLean Asylum for the Insane, at Somerville, made vacant by the resignation of Dr. Bell. This was in 1858. Here he remained till the spring of 1871, when he was compelled by failing health to offer his resignation, which, after much delay and with great reluctance, was accepted by the trustees. It was during this long term of service at Somerville that Dr. Tyler showed that marked executive ability, sound judgment, knowledge, and skill which have made his name famous in this and in other countries. His official reports while at the head of the McLean Asylum have been largely quoted, and are recognized by the profession as among the ablest and best in this department of medical literature.

Dr. Tyler twice visited Europe, where he enlarged and enriched his knowledge of his favorite science, and was received by his confrères in the psychological associations of Great Britain and Ireland with marked courtesy and attention. Upon his retirement from hospital life he took up his residence in Boston, where he soon acquired a large consulting practice in his specialty. In 1871 he was appointed to the chair of mental diseases in the medical department of Harvard University, having previously been connected with the Medical School as university lecturer on the same subjects. He was a fluent and graceful lecturer, — always popular with his students.

In recent years Dr. Tyler has held several important posts in connection with our city and state commissions. He was a member of the American Academy of Arts and Sciences, also of the Boston Society for Medical Improvement, and several other associations for professional advancement, and was accustomed to mingle freely in their discussions. He was also a trustee, under the will of the late Seth Adams, of the proposed institution for the treatment of nervous diseases. In all these capacities he was unsparing of his own

powers, faithful, most conscientious in the discharge of every duty, always ready to go at the beck and bidding of others at whatever cost or sacrifice to himself. Here, indeed, we find one of the prominent traits of his noble and unselfish nature. He made himself prematurely old in his unremitting labors for the cause of science and of humanity. During the last winter especially he felt conscious of failing strength, and of the onset of serious if not fatal disease. But no warnings of friends or forebodings in his own mind could suffice to hold him back from duty. He kept his armor on, and bright with active service till the last; and when the summons came, in a form which he well knew in his case to be the final call, he accepted it, cheerfully and with resignation, almost with gladness, — literally

“ Like one that wraps the drapery of his couch  
About him, and lies down to pleasant dreams.”

U.

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### “OBSCURE FORMS OF LIVER DISEASE.”

MR. EDITOR, — In the account of the proceedings of the Hampden District Medical Society<sup>1</sup> it is stated that, after the paper on *Obscure Forms of Liver Disease* was read, it “was briefly discussed.” Allow me to present an imaginary discussion, which in the minds of not a few of the intelligent members of the society must doubtless have been carried on, although the record unfortunately fails to give the details.

*Critic.* What proof have we that the liver was affected in the first case? On the contrary, there are positive proofs of renal difficulties of the severest type, — pus, blood, casts, painful micturition, severe pain in the right renal region, and tenderness in both renal regions. Only when that pain was the severest was there icterus, apparently a consequence of something extending to the liver, at these times. But there was no tenderness or enlargement of the liver. Now, the question arises whether a yellow skin and some light-colored dejections (intermittent according to the above-named pain) ought to lead us to suspect hepatic disease as the chief trouble. I think not.

But what have we? Owing to the imperfect report we cannot definitely say; but the fact that the first physician found enlargement *behind* the right hypochondriac region leads me to ask whether a nephritic or perinephritic abscess may not explain the whole matter. The pain and swelling in the back, the paroxysms of suffering for three months in the same parts, and none at all found in the hepatic region in front, the urinary signs, all point in the direction of the kidneys. The other symptoms do not contraindicate this hypothesis. Should not the swelling in the back have been explored by the aspirator? Was there any distinct tumor felt between the front wall of the abdomen *below the line of the umbilicus* and the renal region? We do not have any information about these questions, yet, if the palpation indicated had been made, it might have helped the diagnosis. Thus, whilst we are quite unable, owing to the imperfect record of the case, to come to a clear diagnosis, the symptoms undoubtedly point to the urinary rather than to the hepatic organs as the seat of the primary disease. The jaundice and purpura may readily have followed as

<sup>1</sup> JOURNAL, March 7, 1878.



consequences either of local pressure or of general cachexia resulting from the local disease, while syncope, palpitation, and dyspnoea are among the very common accompaniments of renal trouble. Finally, considering that the case is brought forward as being one of hepatic disease, while, at the same time, thoracic symptoms are occurring, one may ask, Why are we not informed of the results of auscultation of the heart and lungs? The critic contended that this was a serious omission, and he concluded in the following words: Case I. not proven to be hepatic disease at all, but the evidence is greatly in favor of its having been renal.

The records of the secretary of the society do not give any reply to the critic, although doubtless one was given, mentally at least, and I sincerely wish we could see it.

The second case also was still more certainly, in the mind of the critic, not hepatic originally. He had also the boldness to assert that, even with the imperfect narrative of the details of the case, he would take the ground that it was a simple case of neglected pleurisy, from the first. Proper precautions were not used, and auscultation in the earlier period of the disease was not made. Hence, by allowing the patient to go out to his work "though not fully recovered," empyema followed, with an opening in the fifth intercostal space. The pain and tenderness in the hepatic region would be very easily explained by a large effusion pressing down the liver. The fact that the patient was able to go to work, "though not fully recovered," is entirely consistent with the possibility of the right cavity of the chest being, at that time, full of fluid. But we really knew nothing of the facts as to pleuritic effusion, till he came down again with increase of trouble. Possibly aspiration would have cured at the earlier period. Hence, continued the critic, the final questions submitted by the reporter may be answered thus:—

First. The pus came from the pleural sac, and probably from that only; there is not a particle of proof that it came from the liver.

Second. There is no proof of any disease of the liver in either of the cases. The critic still further remarked that the idea of hepatic disease would never have suggested itself to him, even with the imperfect record given by the writer.

Third. There was no "abscess elsewhere," in the second case, but a simple empyema, threatening from the time of the earliest symptoms, and culminating when the opening occurred.

In conclusion, the critic claimed that gentlemen when reporting cases should always give not only the positive symptoms and signs of disease, but should also put aside, by accurate record of negative facts, the possibility of the existence of other and allied diseases, with which the case recorded might be confounded. Especially should this be done when cases are presented to the reporters for medical journals.

I trust, Mr. Editor, in thus giving you the above imaginary criticisms upon two cases reported from the Hampden District Society, that our friends will not deem them improper. We all wish to arrive at truth. That can be gained only by the clash of opinions upon well-recorded facts.

Yours truly,

· MEDICUS.

## COMPARATIVE MORTALITY-RATES.

	Estimated Pop- ulation, July 1, 1878.	Deaths during week ending March 2, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean of ten Years, '68-77.
New York.	1,093,171	522	24.83	24.32	28.71
Philadelphia.	876,118	312	18.46	18.80	21.54
Brooklyn.	549,438	193	18.27	21.51	25.50
Chicago.	460,000	113	12.77	17.83	22.39
Boston.	375,476	128	17.73	20.10	24.34
Providence.	104,500	47	24.44	18.81	19.20
Lowell.	55,798			19.09	22.50
Worcester.	54,937	11	10.32	14.07	22.30
Cambridge.	53,547			18.69	20.83
Fall River.	53,207	18	17.59	21.35	24.96
Lynn.	35,528	15	21.96	20.42	19.67
Springfield.	33,981	6	9.19	16.04	19.77
Salem.	27,140	13	22.99	20.38	21.15

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — At a meeting of this society, to be held on Monday evening next at eight o'clock, at its rooms, 36 Temple Place, Dr. T. B. Curtis will read a paper upon Cases of Lithotrixy.

MASSACHUSETTS COLLEGE OF PHARMACY. — At the annual meeting, held March 4, 1878, the following-named gentlemen were elected officers for the ensuing year: President, Samuel A. D. Sheppard. Vice-Presidents, Thomas L. Jenks, M. D., William S. Folger. Recording Secretary, D. G. Wilkins. Corresponding Secretary, George F. H. Markoe. Treasurer, Charles I. Eaton. Auditor, James S. Melvin. Trustees, Benjamin F. Stacy, S. C. Tozzer, Charles P. Orne, Edward S. Kelley, I. B. Patten, George H. Cowdin, Edgar L. Patch. Secretary of the Board of Trustees, Henry Canning. The college and the school of pharmacy were reported to be in very satisfactory condition. G. F. H. MARKOE,  
*Corresponding Secretary.*

MIDDLESEX (EAST) DISTRICT MEDICAL SOCIETY. — The next meeting of the society will be held with Dr. Wight, at the Central House, Woburn, Wednesday evening, March 20th, at 7.30 o'clock. I. RICHMOND BARSS, *Secretary.*

APPOINTMENT. — Dr. Edward Wigglesworth has been chosen physician to out-patient department for skin diseases at the Boston City Hospital.

BOOKS AND PAMPHLETS RECEIVED. — Baths and their Uses in the Treatment of Diseases of the Skin. Valedictory Address to the Class on Diseases of the Skin at the Philadelphia School of Anatomy and Surgery, January 16th. By John V. Shoemaker, A. M., M. D. Philadelphia. 1878.

The Future of Sanitary Science. An Address delivered before the Sanitary Institute of Great Britain at the Royal Institution on July 5, 1877. By Benjamin Ward Richardson, M. D., LL. D., F. R. S. London: Macmillan & Co. 1878. Pp. 47. (For sale by A. Williams & Co.)

On the So-Called Eczema Marginatum of Hebra as observed in America. A Clinical Study. By L. Duncan Bulkley, A. M., M. D. Read at the Annual Meeting of the American Dermatological Association. (Reprinted from the Chicago Medical Journal and Examiner.) New York: G. P. Putnam's Sons. 1877.

Are Eczema and Psoriasis Local Diseases of the Skin? By L. Duncan Bulkley, M. D., Philadelphia. 1877.

On the Recognition and Management of the Gouty State in Diseases of the Skin. By L. Duncan Bulkley, M. D.

Annual Announcement of the Medical College of the Pacific Session of 1878.



# THE BOSTON MEDICAL AND SURGICAL JOURNAL.

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## LECTURES.

### ON THE PHYSIOLOGY OF THE SPINAL CORD.

DELIVERED AT THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK,  
BY PROF. JOHN C. DALTON.

[REPORTED BY P. BRYNBERG PORTER, M. D.]

#### I.

##### THE PHYSIOLOGICAL ANATOMY OF THE SPINAL CORD AND NERVES.

THE spinal cord is the first and most essential part of the cerebro-spinal system. The latter is so called because it consists of the brain and spinal cord, and because its centres are contained in the cranial and spinal cavities. The nervous ganglia composing the brain and spinal cord are massed together, and in this respect they are unlike those of the sympathetic system, which are scattered over a wide territory. The brain is one great mass occupying the cranial cavity, while the spinal cord is a second, inclosed in the spinal canal.

We shall find, on examination, that the brain consists of a series of double ganglia, extending from the anterior to the posterior portion of the cavity in which it is contained, and the same is also true of the spinal cord. If you will look at this preparation of the cerebro-spinal system of a frog, you will see that it commences anteriorly in a series of cerebral ganglia, and that these are followed by the spinal cord, the whole forming a continuous tract. The same thing can be observed in this brain and spinal cord taken from a rabbit, and you will notice in the latter specimen that the brain corresponds in anatomical characteristics and arrangements, though not in its relative size, with the human brain, while the spinal cord can be seen running downward in a cylindrical form.

In these two parts of the cerebro-spinal system the nervous centres constitute, apparently, a unit; but when we examine the matter particularly we shall find that the spinal cord and brain are in reality distinct centres of motion and sensation. I take up the spinal cord first because it is the least complicated portion of the cerebro-spinal system. It is the simplest in its construction and the simplest in its phys-

iological attributes. You are familiar with its form, which may be described in general terms as a cylinder extending from one end of the spinal canal to the other. This description, however, is not strictly accurate, as the cord is nowhere exactly cylindrical, and is not of exactly the same form at any two points of its length. Look, for instance, at these diagrams of transverse sections at different parts of the cord, and you will see that they are very unlike in size and shape, and that they also present essential differences as regards their internal structure. Again, the cord may be described in general terms as tapering gradually from above downwards, but still it presents very distinct contractions and dilatations at various points. These, you will find, correspond closely with the origins of certain groups of spinal nerves.

In the diagram which I now exhibit we see that the spinal cord gives off successive pairs of nerves, and that these nerves are characterized by a great regularity of origin and distribution as compared with those of the brain and the sympathetic system. There are thirty-one pairs, which follow each other in pretty regular order. In such creatures as fishes and serpents (animals whose movements of locomotion are caused by alternate flexions of the spinal column, and not by any extremities or limbs) the spinal nerves are sent off with the utmost regularity. Fishes, it is true, are provided with fins, but these fins are not organs of propulsion. In animals of this character, therefore, the spinal nerves are almost all alike in size and regular in distribution. In quadrupeds and in man, on the other hand, there is this peculiarity: that the anterior and posterior limbs, or the arms and legs, concentrate in themselves most of the muscular activity of the body, as well as a large share of its tactile sensibility. In consequence of this we find a corresponding variation in the size of the spinal nerves; those which supply the limbs being larger than those which go to other parts. Thus, the cervical nerves, which form the brachial plexus, and the lumbar nerves, distributed to the lower extremities, are of a much greater size than those given off in the dorsal region, which supply the trunk.

In addition, it is noticed that the cord itself presents two marked enlargements in the cervical and lumbar regions, where the nerves are given off to the upper and lower limbs. If we examine transverse sections of the cord at different levels, we shall at once see these enlargements corresponding with the points where special nerves issue from it. In this spinal cord of the rabbit you perceive the points of enlargement in the cervical region, where the cervical and brachial nerves originate, and in the lumbar region, where the nerves are given off to the lower extremities. Yet these enlargements are by no means so marked in the rabbit as in many other animals. In fishes or serpents, on the other hand, the cord would be found to taper quite regularly to its lower extremity.



Such are some of the general features of the spinal cord. I have now to add that it is divided symmetrically by an anterior median fissure and a posterior median fissure, which separate it externally into right and left lateral halves, though internally these two divisions are connected by continuity of structure.

We come next to inquire, What is the internal structure of the cord? Like the brain, it is made up of white and gray matter, though it differs from the brain in having its gray matter inside and its white matter outside. This is the general arrangement of the nervous tissues in the cord, but we wish to know their particular distribution and the special arrangement of the nerve fibres and cells. I will first call your attention to the main features of this distribution, and then endeavor, as far as possible, to describe the minute structure of the parts. To begin with, what is the direction of the fibres in the white substance of the cord? This is to be ascertained by the microscopical examination of transverse sections which have been hardened for the purpose; and it is shown by this means that almost all the fibres run in a longitudinal direction. There is scarcely an exception in this particular until we come to that portion of the white substance situated at the bottom of the anterior median fissure. On each side of the cord the longitudinal bands of fibres extend from one end to the other, and in consequence of its division into two lateral halves by the anterior and posterior median fissures, and, still further, by the division of each half into three parts by the peculiar form of the gray matter in the interior, we have the white substance arranged in three distinct columns upon each side. These, from their special situations, are called respectively the anterior, the lateral, and the posterior columns of the cord, and they are all composed exclusively of fibrous bands of white matter, which extend up and down, like the flutings of a column, and are entirely symmetrical on the two sides. The preparation which I show here is a portion, several inches in length, of the spinal cord of an ox, which has been hardened in alcohol (a method often of considerable service), so that we can strip off its fibres and see in what direction they run. In this manner, you perceive, the fibres of one of the posterior columns have been torn off longitudinally. The arrangement of the fibres can be still more satisfactorily demonstrated in transverse sections of the cord made for microscopical examination. It is known that the albuminous axis-cylinder of the nerve fibre has a tendency to become stained with carmine if immersed in a solution of this substance, while the medullary layer remains colorless. Such a specimen will therefore exhibit minute red circular points, the transverse sections of the axis-cylinders, surrounded by transparent colorless circles, which are the sections of the medullary layers. An oblique section of the cord will also show the proportion and arrangement of its constituent substances.

If we make a transverse section of the spinal cord at any point we shall see its internal structure to be such as is represented in this model. The form of its central portion, composed of gray matter, resembles in a general way the letter X. It may be described more correctly as presenting the figure of two crescents with their concavities turned outward, and having their convexities united across the median line by a transverse band of the same substance. This connecting band is known as the *gray commissure* of the cord. The central or ganglionic part of the cord consists, then, of two elongated ribbons, folded outward in a trough-like manner, and united throughout their entire length by a transverse band. In addition we find, on examining the cord throughout its whole extent, that this central gray matter varies not only in form but in quantity at different points. Still, the gray matter does not taper uniformly towards the lower extremity of the cord. The white substance, on the other hand, does taper pretty gradually, as we might naturally be led to expect from the successive origin of the spinal nerves all the way down the cord. These facts are shown in the diagram to which I now direct your attention, and which exhibits transverse sections of the cord made respectively in the upper cervical, the lower cervical, the middle dorsal and the lumbar regions. From these it is evident that the gray matter is greatly increased in quantity at the seat of the cervical and lumbar enlargements of the cord, where it acts as a nervous centre for the upper and lower extremities, while the white matter diminishes gradually as we descend, until at last almost the entire area of the cord is occupied by gray matter.

One point more of a purely anatomical character, and that is in regard to the mode of origin of the spinal nerves. Each nerve is composed of a considerable number of filaments, which pass directly outward from the cord. Furthermore, these filaments are arranged in two distinct sets, which issue, one from the anterior portion, and one from the posterior portion of the cord. If, therefore, a transverse section be made just where any of these nerve roots are given off, it may be seen exactly how they emerge. In each lateral half of the cord the portions of gray matter in the anterior and posterior divisions respectively are called the anterior and posterior cornua or horns. The anterior horns terminate within the substance of the cord, but the posterior horns reach nearly or quite to its external surface. The origins of the spinal nerve roots correspond in situation with the anterior and posterior horns of gray matter. The specimen which I here show is a portion of the spinal cord from the lower cervical and upper dorsal regions in the human subject, and I wish to notice particularly two points in regard to the nerves which are attached to it: the first is that the anterior roots continue of uniform size quite to their junction with the posterior roots; and the second, that upon the posterior roots, between



the points of leaving the cord and their junction with the anterior, there are enlargements of a rounded form. These enlargements are small ganglia, composed of gray matter. They are never found on the anterior roots, and are never absent from the posterior roots, so that this feature makes it easy always to distinguish the two roots from each other. After the two roots become united, their fibres are so intermingled that it is impossible to separate them anatomically.

These are the most prominent points of the physiological anatomy of the spinal cord, but of course we wish to know something more of its internal structure, the connections, origins, and terminations of its component parts, and of the nerves springing from it. Of late years great advances have been made in this field by the microscopical examination of transverse and longitudinal sections of the cord, particularly in connection with artificial staining of its tissues. This diagram represents such a transverse section of the spinal cord. You observe that at least nineteen twentieths of its white matter is composed of longitudinal fibres, forming the anterior, lateral, and posterior columns. There is, however, at the bottom of the anterior median fissure a band of white matter composed of transverse fibres. This band is known as the *white commissure* of the cord, and the question arises, Is it really a commissure, or is it a decussation? On first observing the arrangement of its fibres we might be led to consider it as a true commissure passing between the lateral halves of the cord from right to left, and *vice versa*. But a more careful examination will reveal the fact that its fibres do not connect exactly corresponding parts of the two halves of the cord. On the contrary, the fibres of the white commissure, coming from the anterior column of one side, cross over to the anterior horn of gray matter on the opposite side, and there lose themselves in its structure; so that, beyond doubt, the transverse fibres of the white commissure serve to connect the white substance of either side of the cord with the gray substance of the other side, throughout its entire length. There is, however, no corresponding white commissure at the bottom of the posterior median fissure, and the posterior columns therefore appear quite disconnected from each other in a transverse section.

Let us now try to ascertain the real source and connections of the anterior and posterior roots of the spinal nerves. Where do they originate, and whither do they go? In the first place, it is evident that the anterior roots as they are given off by the cord, pass directly from the anterior horns of gray matter, and that the posterior roots pass directly from the posterior horns. But when we have said this we have stated pretty much all that is definitely known at present in regard to the subject. If a transverse section of the cord be made at the level of the origin of any pair of spinal nerves, the anterior root fibres of the latter will be seen to issue from the anterior horns of gray matter, and thence

extend forward through the anterior column to the surface of the cord. There is no question, therefore, that the root-fibres are connected, first with the anterior column, and next with the anterior horn of gray matter, on the side where the nerve originates, though, according to some of the best microscopists, certain fibres can be traced through the gray matter into the lateral columns. Our knowledge on these points is still quite incomplete, notwithstanding all the time and labor that have been bestowed upon them; but no earnest student of physiology will ever remain satisfied until the exact origins of all the spinal nerve fibres are conclusively demonstrated.

From what has now been said we see that the spinal cord is to be regarded, —

First, as an organ of nervous communication, proceeding from the brain and connected with various parts of the body by means of the spinal nerves.

Secondly, as a nervous centre, having an internal deposit of gray matter enveloped in the external covering of white substance.

It is the simplest of the two great divisions of the cerebro-spinal system, forming an extended cord-like mass inclosed in the spinal cavity. It consists of two lateral halves, separated by the anterior and posterior median fissures, each half containing both white and gray matter, the former being exterior and the latter interior. On each side it presents three columns, the anterior, the lateral, and the posterior. The anterior and posterior horns of gray matter on each side are connected with those on the other by the central band of gray substance called the *gray commissure*; and there is also in front of this a transverse band of white matter, known as the *white commissure*. Thirty-one pairs of nerves are given off from the spinal cord, each nerve springing from two roots, the fibres of the anterior root coming from the anterior horn of gray matter, and those of the posterior root from the posterior horn. Finally, each posterior root is distinguished from the corresponding anterior root by a small ganglion through which its fibres pass after emerging from the substance of the cord.

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## A PECULIAR CONDITION OF THE CERVIX UTERI WHICH IS FOUND IN CERTAIN CASES OF DYSTOCIA.<sup>1</sup>

BY ALFRED HOSMER, M. D. HARV., WATERTOWN.

OF the condition to which I allude few practitioners, I think, have ever heard or thought, and it is not very many months since it first came to my own knowledge as an alarming and troublesome novelty. I am free to confess that I then failed, as it now seems to me, to apprehend its true nature, and for that reason I feel justified in again calling

<sup>1</sup> Read at the meeting of the Obstetrical Society of Boston, February 9, 1878.



the attention of the society to the subject. And still further, I doubt very much if the brief report of a single case presented as an oral communication to this body could convey any due impression of the extraordinary and almost inconceivable difficulty — and difficulty is but another name for puerperal danger — which the obstetrician may be forced to meet in connection with this peculiar disposition of the uterine substance. It is a condition of which it may be safely said that it has never received recognition and description in any systematic treatise on midwifery which has found its first expression in the English language. In a general way and under the lead of my own first impressions, I should define it by saying that I have in mind a state of things which, with the hand inside the gravid uterus, imparts to the sense of touch the same idea of form and arrangement that is conveyed to the eye by any well-drawn illustration of the so-called hour-glass contraction, such as may be found in Plate LVIII., Figure 4, of Ramsbotham's system of obstetrics. Of what is there represented every medical man has a distinct notion, and what has hitherto been held to be a correct appreciation. But the opinion which has generally been accepted in this connection must be completely ignored when we come to consider that condition which is to be described in this paper. I make the comparison for the sake of convenience, and not because, when regarded from the ordinary point of view, it has the force of any analogy, or can furnish anything in the way of an anatomical or physiological explanation of the irregularity in question.<sup>1</sup>

I expect only to offer a few meagre suggestions, but in doing that I desire the security that comes of standing upon a clinical basis, the broadest that I can command, and I pass at once to the narration of four cases, only one of which I have seen myself, and for all of which I am indebted to the practice of other physicians.

CASE I. Dr. L. R. Stone, of Newton, requested my assistance late in the evening, September 4, 1876. I found a primipara, short, stout, and thirty years of age. She had passed her calculated time, and had then been in labor seventy hours. Her general condition was fair, but the pains had diminished in frequency and strength. The pelvis was narrow, the pubic arch contracted, and the promontory of the sacrum, by its marked projection, encroached very seriously upon the dimensions of the superior strait. The occiput lay towards the right acetabulum,

<sup>1</sup> One of the latest authorities thus expresses himself: "One peculiar variety, which has been dwelt on by writers and is a prominent bugbear to obstetricians, is the so-called hour-glass contraction. This in reality seems to depend on spasmodic contraction of the internal os uteri, by means of which the placenta becomes encysted in the upper portion of the uterus, which is relaxed. On introducing the hand it first passes through the lax cervical canal until it comes to the closed internal os, with the umbilical cord passing through it, which has generally been supposed to be a circular contraction of a portion of the body of the uterus." (*A Treatise on the Science and Practice of Midwifery*, by W. S. Playfair, M. D., page 376.)

and the head, thrown far forwards over the pubes, formed a prominent mass externally. The os was well dilated and quite out of the way; the parts were moist and of good temperature. The forceps had been already tried, yet it was deemed best to resort once more to the same means. The two portions of the instrument were applied without much trouble, but as soon as traction was made slipped off posteriorly, and for this very simple reason. Such was the disposition of things that both blades, in their whole width, lay entirely to one side of the plane of a long diameter of the head of the child, and thus included not parallel but converging surfaces, the convergence being at right angles with the length of the blades. Next, version was attempted. The hand was not carried up without a good deal of effort; the left foot was seized and brought into the vagina. But no force thus applied could change the position of the child. A loop of tape was then passed around the limb, and upon that we pulled steadily and firmly until we were admonished by the yielding of the tissues about the ankle that that method would effect only the delivery of a small portion of one member. Then the head was opened and emptied of its contents, and the forceps applied to the diminished mass, but neither the use of this or any other instrument at our command resulted in the least progress. It was now decided that version was an absolute necessity, and could be accomplished only by controlling and using both of the lower extremities of the fœtus. The right foot, therefore, must be brought down, and it was during the process of seeking it that a most unexpected difficulty presented itself. Midway between the os and the fundus, in the uterine cavity, there was discovered a powerful constriction, grasping and holding the pelvis of the child like a gigantic sphincter, whose force perhaps was surely to be augmented, through the law of reflex action, by every attempt that was made to overcome and remove it. The ether, under the moderate influence of which the patient had been kept, was now pushed to its utmost. The hand was carried up gently, steadily, perseveringly, and after passing the sharp, distinct, and well-defined edge, which in its continuity made a complete circle, with much difficulty reached the right foot. After a prolonged effort the foot was brought down to the brim of the pelvis, but could be got no farther by the direct use of the hand. A loop of strong tape, guided by the fingers, was then carried up and made fast about the leg; after a considerable time, by dint of the persistent exertion of unusual force, version was accomplished, and a female child, weighing six or seven pounds, was delivered. The placenta was removed with the usual facility. The patient died seventy-two hours afterwards.

In explanation of a certain incompleteness in this record, I will say that I was suddenly confronted with an abnormal form of uterine action of which I knew absolutely nothing. And ignorance is self-perpetuat-



ing; with knowledge, as with wealth, possession is the condition of acquisition. The best approach to any subject lies in a fair appreciation of some of its relations. Again, there was an emergency, and with it urgency. The question was not of the complete and thorough scientific study of a case at once interesting and appalling, but rather the practical problem of the best method of relieving an unfortunate woman, who, unless delivery were speedily determined with a reasonable exercise of muscular strength would lose even that benefit of doubt which is always accorded in the simple declaration of existing danger.

CASE II. This includes the history of three labors in the same patient. From full notes furnished by her medical attendant, Dr. George J. Arnold, of Roxbury, I have abridged the following statement:—

On the morning of April 5, 1872, Mrs. W., aged twenty-eight, Irish, strong and healthy, primipara, fell in labor at the termination of a pregnancy throughout which she had been perfectly well. At one o'clock P. M., labor was still in the first stage; on examination the pelvis seemed high and straight; the pectineal line of the os pubis was somewhat prominent, and the promontory of the sacrum especially so. The os uteri admitted only the forefinger, and everything betokened a tedious labor. The evening showed a slight advance, the os being then dilated to the size of a half dollar.

April 6th. The pains had continued all night, but had not altogether prevented sleep. They were now satisfactory in their frequency, force, and duration; the parts were less rigid, and the os two thirds dilated. The patient was cheerful, and in excellent general condition.

At noon the os was fully dilated; occiput to left front. The head advanced but slightly notwithstanding a good pain every five minutes. At three o'clock the pains began to change in their character; they had become short, inefficient, and recurred at irregular intervals, varying from five to fifteen minutes. At ten o'clock in the evening this change in the quality of the uterine contraction was still more marked. The head had only engaged in part in the superior strait, and was quite movable; it was clear that little if any progress had been made since midday. The foetal movements were active and vigorous.

The mother now began to show unmistakable signs of commencing exhaustion. She was etherized, and forceps were applied, but not without some difficulty, because the larger portion of the head still remained above the brim of the pelvis. Dr. Arnold exerted all his strength, but without changing in the least the position of the head. At last the forceps slipped. The instruments were placed a second time, but, as before, without avail. It was then decided to resort to version. The parts were still very firm, but moist. The conformation of the pelvis rendered it very difficult to introduce the hand so as to pass it along the anterior aspect of the child, which was very close to the posterior wall

of the uterus. Before a leg could be found the hand reached what, from the rounded outline, was supposed to be the fundus of the womb. Under the impression that the position of the fœtus might have been mistaken, the hand was partially withdrawn. This question having been settled, the hand was again pushed upwards, and then discovered that what had been at first supposed to be the fundus was really a constriction about the upper third of the uterus, encircling the child and inclosing its hips and lower extremities. It seemed like an hour-glass contraction, and consisted of a large, firm band, with its inner edge quite sharp. Its contact with the child was so close and firm as hardly to permit the passage of the fingers through it. The attempts to seize the feet were laborious, wearisome, and discouraging. It was only accomplished by carrying the arm diagonally across the front of the child and then forcing in the fingers, like wedges, over the hips and sacrum and across the nates. The upper surface of the constriction seemed flat and to the touch suggested the edge of a board or shelf. The hand, now within and beyond it, could not be opened, and the arm was paralyzed and almost useless. After prolonged efforts, one foot being secured at a time, version was accomplished, and the labor was completed with no more difficulty than might be expected in a primipara with an imperfect pelvis. The child, a male weighing nine and a half pounds, was born alive and did well. The patient made a good recovery.

May 21, 1874. The same woman was confined with her second baby, and the obstetric attendant had about the same experience as that just related. The full dilatation was awaited, and then labor was expedited by version. The same constriction existed, and the obstacle which it presented was at last overcome by the same amount of force and persistency that had been required in the first labor. After the delivery of the body it was found to be impossible to extract the head without the aid of the forceps. The child, a male weighing ten and a half pounds, was born alive.

July 16, 1876. Mrs. W. was confined with her third child. She was first visited at one P. M. Labor had commenced the previous evening. The pains had been quite regular all day; the os was soft, patulous, and dilated to the size of a half dollar. Progress was favorable until six P. M., when the os was fully dilated, and each pain seemed to advance the head a little. Soon after, the pains became irregular and uncertain. At ten P. M. signs of exhaustion on the part of the patient demanded immediate interference for her relief. The condition of the parts and the position of the head were so favorable for the application of the forceps that an attempt was made to deliver by this means. But the combined efforts of the two physicians then in attendance were entirely ineffectual. Version was next resorted to. The constriction, already described, was easily detected, and caused quite as much embar-



rassment and delay as in previous labors. At last turning was accomplished, and the delivery was completed with the forceps. The child, a female weighing eleven pounds, was still-born, and on the fourth day afterward the mother died.

The foregoing cases, forming a portion of the proceedings at one of the meetings of this society, appeared in print<sup>1</sup> October 18, 1877. They at once attracted the attention of a medical gentleman living far away, Dr. C. A. Thompson, of Jefferson City, Mo., who, under date of October 22, gave me a brief statement of a similar case which had come under his own observation, and which he very naturally supposed to be one of ante-partum hour-glass contraction. In concluding that letter he says: —

“ I then had no doubts of the true condition. It must be a rare complication in labor, yours being the only case I ever saw reported, and mine the only one I ever met with.”

The correspondence which started at this point put me in possession of some extremely interesting facts, and furnished material of the utmost value. It revived and quickened my own interest in the subject, and became the efficient cause of my present effort to know more of one of the most serious deviations from the normal course of labor that I have ever been required to encounter.

CASE III. This includes the history of two labors in the same woman, of which the first was finished with uncommon difficulty, while in the second death occurred before delivery could be effected. The patient was of German parentage, above the medium size, and before marriage occupied the position of a servant-girl. Her family record was good, and her own sound health was in no wise impaired by pregnancy. When nearly twenty-two years of age her first labor commenced at term. Her pelvis was well formed and of full capacity. At the end of thirty-six hours the reason why no progress was made was found to be a constriction encroaching upon the uterine cavity, and distinctly marked and felt through the abdominal walls, as well as in every attempt to pass the hand in the efforts at turning. This constriction was situated about one third way from the os to the fundus. The body and limbs of the child, which proved to be not a large one, were contained in the upper uterine chamber, whose capacity was estimated to be twice that of the lower one. Delivery was accomplished with a blunt hook, after craniotomy, forceps, and a thorough trial at version had failed of immediate success. The placenta was attached above the constriction.

Eighteen months later, the patient again fell in labor at full term, and at the end of twelve hours Dr. Thompson discovered the existence of precisely the same condition of things that had been the cause of the difficulty and delay in the former labor. But the obstacle which now pre-

<sup>1</sup> JOURNAL, vol. xcvii., pages 450 and 451.

sented itself proved to be insuperable, and the unfortunate woman died undelivered. Two months before the second labor, in anticipation of what did actually happen, a careful examination was made of the uterus and other genital organs, but nothing abnormal could be detected. The conclusion, very reasonably accepted by the medical attendant in the case, was that this deformity of the uterus was incident to and coincident with the parturient process. Yet the opinion of uterine malformation was expressed by the consulting physician, a gentleman who for many years had had a large obstetrical practice, and was called at the time of the fatal labor.

The case just reported holds an intermediate position between those that precede and one for the notes of which I am indebted to Dr. B. F. D. Adams, of Waltham.

CASE IV. "Mrs. H. was a well-developed woman, thirty years of age, primipara. She was seen in consultation about eight A. M., two physicians being then in attendance. The report was that the patient had been in labor some twelve hours or more, and through the night the pains had been frequent but ineffectual. Forty grains of quinine in four equally divided doses had been given as an oxytocic, without very marked effect upon the progress of the labor.

"On examination the os was found well dilated and out of the way; the head, with the occiput towards the left acetabulum, was high up, and projecting forwards from behind the symphysis pubis formed quite a prominent mass externally. There was nothing unusual in the conformation of the pelvic bones.

"The forceps had been applied satisfactorily under ether, and both gentlemen in turn had used their utmost powers of extraction without producing any effect on the position of the head. It seemed useless to make any further attempts in this direction, and it was determined to turn at once.

"On introducing the hand beyond the brim of the pelvis, the neck of the child was found grasped firmly by a sharply defined circular constriction of the uterus, beyond which the hand could only be passed by the greatest and most persevering effort. One foot was at length grasped, brought down, and secured with a tape, and eventually, after repeated attempts, the other foot was secured; but no amount of traction, assisted by external pressure over the head, overcame in the least the resistance of this constricting band of uterine muscle. Under the impression that this resistance, which seemed to be entirely muscular, would certainly yield to continued traction, an amount of force was used which under other circumstances would be unwarrantable, and was continued until the tissues of the child began to give way.

"The attempt was now made to perforate, but the apparent relaxation of the uterus, which had come on suddenly, and the collapse of the



patient warned us to desist and to withdraw the ether. The patient did not rally, but continued to sink rapidly, and in a short time died undelivered.

“At the autopsy, made a few hours after death, the child, a large one, was found lying in the abdominal cavity, having escaped from a bruised laceration of the uterus occurring at the point where pressure had been made upon the head in the attempt at version. There had been little or no hæmorrhage into the abdomen.”

In a review of these cases, one of the most striking features is the difficulty, amounting sometimes to the impossibility, of extracting the fœtus. Death overtook two undelivered women. The statistics, although dealing with small figures, attest a fearful mortality. Our clinical record includes four mothers, seven labors, and seven children. The women were all eventually lost; four of the labors were fatal ones, two of them becoming so before delivery. Of the children but two were saved, and both of these, born of the same mother, were of large size. Moderate weight went for nothing in the scale of infant life. Recurrence, although an obvious fact, deserves to be specially mentioned. Unlucky patients survived one or two terrible labors only to perish in a subsequent one. In two of the cases the pelvis exhibited marked deformity, while in the others, in some respects the worst in the series, it is reported to have been “well formed and of full capacity,” or to have presented “nothing unusual in its conformation.” The annular constriction was a constant and prominent characteristic, and in one instance defined in such a way that there could be felt through the abdominal walls upon the external uterine surface a sulcus or linear depression which corresponded exactly with the intra-uterine projection. As it came to my hand, there is no danger of overstating its firm and unyielding nature; its edge was wonderfully thin and sharp, and its base, in a vertical sense, was not a broad one, but by the law of equivalents its inherent strength may be estimated from the frightful force which it was able to resist. Against it, manipulation seemed to avail nothing; its quality of rigidity was rather suggestive of metal than of muscle. Without stopping just yet to explain its relation with another element with which it is so constantly associated, it is safe to insist upon its serious importance as an acquired and secondary complication in labor, and upon the extreme difficulty and perhaps danger which it may attach to the operation of version.

It should be noted that of the seven labors described above four were those of primiparæ, and that in all the presentation was of the head. The interval of time which elapsed between the commencement of uterine action and the discovery of this peculiar constriction was in the first labor in our series seventy hours; in the second, forty hours; in the third, not given; in the fourth, twenty-four hours; in the fifth, thirty-

six hours ; in the sixth, twelve hours ; and in the seventh, twelve hours. The fifth and sixth labors constituted the third case, and the seventh made up the sum total of the fourth one ; and in both of these death occurred before delivery could be accomplished, although the attendants failed to detect in either of them anything wrong in the formation of the pelvis.

The late Dr. George T. Elliott<sup>1</sup> has given, with full detail, three cases in illustration of that condition which he defines as “tonic, circular contraction of uterine fibres,” and which he speaks of as “an irregular tetanic uterine cramp of certain fibres.”

I refer to them with the assumption, possibly a wrong one, that a proper classification would arrange them side by side with those cases which make up the series that I have presented. Thus much should be said in respect to them : that at least two of the patients were not primiparæ, and that there had been difficulty or delay in all the previous labors, and in those which he describes the children were all lost, although the mothers eventually made good recoveries.

In searching for an explanation of this uterine peculiarity, I think we find a most satisfactory one in the views of Dr. Ludwig Bandl, an obstetrician belonging to the Vienna school. His studies, undertaken in connection with the subject of rupture of the uterus,<sup>2</sup> have at least thrown a stronger light upon the true anatomy of the womb, and have pointed out relations between the body and neck of that organ which it is very important to understand, and which fix for the uterine body a limit not hitherto assigned to it, and discover in the cervix a most astonishing capacity for increasing all the dimensions of its cavity. He has ascertained that the latter, in addition to the transverse distention which is accurately measured by the size of the fœtal head, may be so stretched as to attain a length even of twenty centimetres, or eight inches. The mechanism by which this effect is produced is clearly stated in the reference just given. But I would also bear in mind the possibility of finding a predisposing cause and an efficient factor in some defect in the quality of the cervix, in some want of elasticity or cohesion which may be inherent, or may have been acquired as the result of some pathological process.

The opinions of Bandl seem reasonable and consistent, and inevitably lead us to the conclusion that the constriction which was the cause of so much perplexity and embarrassment in the difficult labors which have been detailed was simply the internal os, and that of the two chambers into which the cavity of the womb was thought to be divided the lower one was contained wholly in the uterine neck, and was bounded by a wall of cervical tissue, of which the tenuity in some instances must have been extreme.

<sup>1</sup> *Obstetric Clinic* (1868), chapter vii.

<sup>2</sup> See page 11 of this volume of the *JOURNAL*, January 3, 1878.



The same writer cites a case in which the os internum was as high as the umbilicus; the cervix was as thin as paper and so enormously stretched that it covered more than half the fœtus. The presentation was by the face. Forceps failed, and after craniotomy a child was extracted which weighed a little more than eight pounds. On the fourteenth day the woman left the hospital well.

Little need be said of the diagnosis of the condition in question; the hand once brought in contact with it, externally or internally, any mistake would seem to be impossible in the face of such well-defined characteristics. The only thing to be insisted upon is the importance of an early recognition. The expectant method has no place here. Expectation will not terminate in delivery, but will lead to disappointment, and perhaps to death. Even a careless eye cannot fail to perceive that the uterus is practically disabled for the reason that its force is misapplied; it is powerless to relieve itself or to assist us. Its whole energy, instead of being utilized for the expulsion of its contents, is expended upon the useless and dangerous elongation and attenuation of the cervix.

The discouraging difficulties which array themselves in connection with treatment cannot have escaped attention. Passing from the simpler to the more serious, all the ordinary obstetric means and manœuvres were successively called into requisition, most of them to be abandoned for another trial of some method already laid aside as insufficient and unsatisfactory. Anæsthesia seemed to bring no advantage to the accoucheur, excepting that it reduced the patient to the state of non-resistance. And the results, whatever they may have been in each case, were attained only through the exhibition of considerable force, and by dint of a resolute and persevering effort which exerted itself in a direction that was more or less subject to change. I do not see that any other rule of management can be laid down. The practitioner can only give due heed to the suggestions which come of a given exigency, and can then do no more than make an intelligent use of the remedies and expedients which have been placed in his hands by a profession for the imperfections of which he is not individually responsible.

While my knowledge of the subject under consideration was restricted to what I had learned from the four cases which I now report, I had a very strong desire to listen to the criticisms which might be made by some obstetrician of sound judgment and mature experience, and to know how he would receive the proposition that these cases, which may properly be called desperate ones, should be treated by cæsarean section, with antiseptic accessories.

The obstetric art has from time to time found misfortune and reproach in those cases in which women have died in labor, not from hæmorrhage, or convulsions, or exhaustion produced by coexisting diseases, but from

the impossibility of delivering them with sufficient celerity; and here arises a question that has more of a speculative than a practical character: In what proportion of these cases has this strange deformity of the uterus been developed as an unknown and unsuspected element?

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## RECENT PROGRESS IN THE THEORY AND PRACTICE OF MEDICINE.

BY A. L. MASON, M. D.

*The Hypodermic Injection of Dialyzed Iron in Chlorosis.* — Dr. Da Costa<sup>1</sup> reports a case of chlorosis treated by subcutaneous injections of dialyzed iron. The patient, a girl of twenty-one, had suffered for several months from palpitation, dyspnœa, headache, and œdema of the feet and legs. There was marked pallor, and the menses had been arrested for three months before she entered the hospital. An inorganic systolic murmur was heard at the base of the heart, and a loud venous hum over the jugulars. The relative proportion of white to red blood corpuscles was normal, though there was a slight deficiency in the red corpuscles. By the daily injection of from fifteen to thirty minims of dialyzed iron, at first diluted, later undiluted, as it was found that no irritation of the skin was caused, in a little more than two weeks the patient regained comparative health. Menstruation returned, the murmurs became faint, color and strength came back, the appetite was good, and the bowels were regular. Dr. Da Costa judges from this single instance that the same method of treatment will prove valuable in cases where constipation, headache, and disordered digestion preclude the internal use of iron in the ordinary forms, or where the stomach does not retain it. All other preparations are too irritating for hypodermic use. He suggests that iron introduced in this manner may still be worth trying in cases of pernicious anæmia.

If the small quantity of dialyzed iron (from fifteen to thirty minims daily) employed in the treatment of this patient were the chief cause of her rapid improvement, it would be of interest to know what becomes of the large doses (from a drachm to half an ounce two or three times a day) recommended by other writers, and why moderate doses given in the usual way often fail to produce the effect of Quevenne's iron or the more astringent salts.

Professor Bouchardat,<sup>2</sup> having been requested to express his views upon the merits of dialyzed iron, says that in his opinion the preparation called by this name (although it does not pass through the dialyzer) is absorbed with difficulty, and under the influence of small quantities

<sup>1</sup> Philadelphia Medical Times, March 2, 1878.

<sup>2</sup> Bulletin générale de Thérapeutique, January 30, 1878.



of alkali, acid, and various substances contained in the food forms an insoluble compound. Until clinical experience shows the contrary, he thinks that it should be regarded as an almost inert ferruginous preparation. Professor Depaire of Brussels is quoted as holding the same view.

*Progressive Pernicious Anæmia.* — An editorial article in *The Doctor*<sup>1</sup> enters a protest against the attempt, said to have been made by Gussow, Biermer, and others, to establish a new form of disease without any special anatomical lesion, characterized by a single symptom only, or by a group of symptoms which are common to several diseases. The writer regards this as a retrograde movement tending to check investigation as to the true nature of the cases in question. It is doubted whether the coexistence of progressive anæmia (accompanied by pallor, emaciation, and debility) with diarrhœa, dyspepsia, the puerperal state, hæmorrhages, febrile paroxysms, fatty degeneration of certain parts of the heart, or changes in the lining membrane of blood-vessels can be held to occur with sufficient constancy to warrant regarding the anæmia as the essential morbid process. It is granted that this may be a convenient method of associating clinically cases which resemble each other in symptoms, but the writer thinks that more careful observation will differentiate some of the morbid states, and assign them their true position. He is inclined to agree with the French authorities, who for the most part entirely repudiate the idea that such a disease as essential pernicious anæmia exists. M. Brissaud is of the opinion that there is nothing which can be called pathognomonic of this affection, no constant anatomical lesion, and nothing characteristic in the phenomena observed. M. Ricklin<sup>2</sup> has criticised all the published cases, and has attempted to show that all are examples of well-known diseases. All cases which have recovered are rejected as being neither progressive nor pernicious, and all cases in which there was no autopsy are thrown out. Then puerperal chlorosis, unrecognized cancer, fatty heart, interstitial nephritis, alcohol, etc., are held to play important parts in some of the cases reported. Finally, those cases in which a considerable accumulation of leucocytes in the marrow of the bones has been noticed are regarded as instances of myelogenic leucæmia, — a pathological relationship which was brought prominently forward by Dr. Wm. Pepper, of Philadelphia, some years ago.<sup>3</sup> It is thought also that examination of the intestines would discover in some cases the intestinal leucæmia described by Béhier. The conclusion is that the anæmia is only a symptom, and as such should not be endowed with a morbid entity.

It is true that in these cases no constant organic lesion may be found,

<sup>1</sup> February 1, 1878.

<sup>2</sup> Gazette médicale de Paris, Nos. 24 and 25, 1877.

<sup>3</sup> American Journal of the Medical Sciences, October, 1875, and April, 1877.

but the later researches of Dr. S. T. Sørensen<sup>1</sup> at a public hospital in Copenhagen seem to show a deep-seated disturbance of the blood-making function, the remote origin of which must be uncertain until the organs or systems which preside over blood-production are more definitely determined. Dr. Sørensen has made a very careful and valuable report of eleven fatal cases of extreme oligæmia which came under his observation during the previous year and a half. In ten cases frequent examinations of the blood, after the method of Malassez, were made at different times during the disease. The color was always very pale, and a progressive diminution of red globules was noticed until their number was reduced to one fourth, one tenth, and even one twelfth of the normal standard. Death was found to be imminent when there were less than five hundred thousand red corpuscles to the cubic centimetre (about five millions being the number estimated in healthy persons), often earlier. The globules varied greatly in size and form, and the change was in them, not in the serum. The usual symptoms were observed. There was almost always retinal hæmorrhage. The cases ran sometimes an acute, sometimes a more chronic course, and at the autopsies in nine instances the following changes were found: universal anæmia, granular degeneration of glandular tissue in the liver, kidneys, and supra-renal capsules, fatty degeneration of the heart and inner coat of the aorta, and capillary hæmorrhages. These alterations were thought to be due simply to mal-nutrition dependent upon impoverished blood. In three cases there was chronic endocarditis with dilatation, and in three pulmonary emphysema and œdema. Examinations of the bone-marrow in three instances gave negative results. Seven of the patients were men, *four only were women*, and their previous conditions in life gave no clue to the causation, except in one instance in which the invalid attributed her state to fatigue and grief at the loss of a sister. Six were between the ages of forty-five and fifty-four years, and of the others two were twenty-three, one sixty, one sixty-one, and the oldest sixty-eight. The microscopic examination of the blood was, in all cases, sufficient to establish the diagnosis, which was confirmed by the autopsies, although the author thinks that in some rare forms of chlorosis and of secondary anæmia the blood may present similar appearances. Transfusion was tried in one case, but no treatment was of any avail.

*Seventy-Four Cases of Scarlatina.* — Dr. W. E. Bullard<sup>2</sup> gives an account of seventy-four cases of scarlatina treated during the year 1877, of which sixty-one recovered and nineteen died, a mortality of 17.5 per cent. Forty-nine cases were mild, and twenty-five grave. Two cases,

<sup>1</sup> Nordiskt medicinskt Arkiv, Band ix., Nos. 14 and 20, 1877. Bulletin de la Société de Médecine de Gand, January, 1878.

<sup>2</sup> New York Medical Journal, March, 1878.



two and three years of age respectively, which were ushered in with severe convulsions followed by coma, died within twenty-four hours, before the appearance of the rash. Other children in the same families had the disease at the time, and marked redness of the fauces had been observed in these two patients for several days. In thirteen cases which were watched during the stage of incubation the earliest symptom noticed was this deep-red color of the throat. The child two years old who had convulsions at the onset, with a temperature of  $105^{\circ}$  F. in the rectum, was treated with the wet pack while still in a state of coma, and the dangerous symptoms all disappeared, the patient becoming cooler and remaining so for several hours, when the convulsions returned, and the child died. The packs had not been renewed as directed. The temperature, which was carefully noted in all instances, rose to  $106^{\circ}$  F. in five cases, three of which were fatal. There were six deaths from the extreme virulence of the throat affection, which assumed a diphtheritic character, with great glandular enlargement, in five instances, the immediate cause of death being septicæmia and exhaustion. Three children died of acute desquamative nephritis. Cool bathing or sponging with tepid water was used with advantage in six cases, but the cold tub-bath ( $60^{\circ}$  F.) was tried in two cases only. In these the baths and wet packs were employed alternately at intervals of about two hours for four days. The temperature was thus reduced from  $106^{\circ}$  to  $102^{\circ}$ , the pulse from 130 to 100. One case recovered, but the other died from diphtheritic complications and septicæmia on the twenty-first day.

The following prescriptions were thought to exert a favorable influence in modifying the course of the disease:—

R̄ Potassæ chloratis . . . . . 3 ss.  
 Glycerine . . . . . fl 3 ss.  
 Aquæ calcis . . . . . fl 3 ijss. M.

S. A teaspoonful every hour or two.

In diphtheritic or bad anginose cases:—

R̄ Tr. ferri chlorid. . . . . 3 i.  
 Glycerine,  
 Aquæ . . . . . āā 3 i. M.

S. A teaspoonful alternately with the former every hour or half hour.

In cases which required it a spray of carbolic acid and lime-water, and syringing the nares with lukewarm salt water, were found beneficial.

*Notes on the Slow Pulse sometimes seen in Jaundice.*—Dr. J. Wickham Legg<sup>1</sup> gives the results of experiments made upon animals with a view to determining the cause of the slow pulse in jaundice. This phenomenon being allowed to be due to the biliary acids, since the bile pigment and cholesterine do not produce this effect, the action of these

<sup>1</sup> *Medical Times and Gazette*, February 23, 1878.

acids either upon the vagus, the muscular walls, or the ganglia of the heart has been held to account for the diminished frequency of the pulse. But Dr. Legg states that the same result follows when the influence of the vagus is removed, and that the biliary acids have no physiological action on muscular tissue; therefore he concludes that the slow pulse must be owing to the effect of the acids upon the cardiac ganglia. It is not very common, but may occur in all forms of jaundice, the pulse-rate varying from 21 (Frerichs) to 40 or 50 in extreme cases, but it is usually as high as 60. Out of twenty-seven patients with simple jaundice Dr. Legg noticed this peculiarity in four cases only.

(To be concluded.)

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## PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. G. CUTLER, M. D., SECRETARY.

DECEMBER 24, 1877. *Chronic Ulcers of the Stomach and Duodenum; Old Pyelonephritis.*—DR. B. S. SHAW gave the following history: 'The patient, an iron merchant sixty-six years of age, married, and of temperate habits, had never suffered from any serious illness since early life, when he had some lung difficulty. For many years he had been dyspeptic and habitually constipated. For the past two years he had been depressed and despondent about his business, without cause. Three months ago he had a severe attack of colic, accompanied by obstinate constipation, flatulence, acidity of stomach, and pain; tenderness was not present. He vomited a little mucus and some undigested oysters which he had eaten a short time before. Since then he had been constantly melancholic, and thought he was unable to eat solid food; he had therefore lived on beef tea, gruel, and farina, and had gradually lost flesh. There was no pain, tenderness, or vomiting after the attack just mentioned. Perhaps six or eight times in the past three months he had been induced to swallow a small portion of beefsteak or tripe, and had daily taken a small piece of cracker in his beef tea. It was impossible to induce him to eat more solid or nourishing food, however, in spite of the fact that he said he suffered no distress in his stomach, either when it was empty or after eating. He complained of nothing, and only begged to be let alone. There had never been any history of renal or vesical trouble.

Dr. E. G. Cutler performed the autopsy and showed the stomach and one kidney. The body was found to be in an extreme state of emaciation. On opening the stomach, the mucous membrane was thickened and generally of a brownish color; there was an increased amount of tenacious mucus covering it, and in several places on the anterior and posterior walls there were cicatrices of former ulcerations. One fresh, round, superficial ulcer, which involved only the mucous coat, was found near the pylorus. There were two round ulcers in the upper part of the duodenum, which were opposite each other and about the size of the end of the thumb; there was loss of the mucous and muscular coats, the serous coat forming the floor of the ulcer.



The left kidney was five inches long, two and a half inches broad, and two inches thick ; on section it appeared healthy. The right kidney was reduced to a mass of half a dozen closed sacs about the size of the fist. The wall of the sacs was about two lines in thickness, and was of an opaque white color, little or no renal structure being apparent ; there were several imperfect septa which nearly separated the sacs, and which, starting from the periphery, converged towards what was once the pelvis of the organ. The ureter was normal up to the pelvis of the kidney, where occlusion had occurred. A turbid, milky fluid containing a few caseous masses filled the sac ; under the microscope this fluid was found to be old pus cells, fatty granules, granule-corpuscles, and cholesterine plates.

*Fatal Poisoning by the Inhalation of Lime-Kiln Vapors, Carbonic Oxide Gas predominating.* — DR. DRAPER reported the case as follows : At six o'clock in the morning of December 21, 1877, a workman employed at a lime-kiln found upon the top of the stack of furnaces, and lying between two of the fires, the dead body of a man about forty years old. When and under what circumstances the deceased went there is not known ; but it is presumed that he was familiar with the place, though not with its dangers, and, the night on which the accident occurred being a frosty one, he was tempted by the warmth of the situation and by its ready accessibility to resort to it for lodging. This lime-kiln consists of a stack of four furnaces, arranged in a row ; each furnace is of the shape of an inverted sugar-loaf, the upper and larger end being exposed to the air, a low brick wall or parapet being the only inclosure at the top of the structure. Upon this wide upper mouth of the furnace alternate layers of coke and oyster shells are shoveled, and slow combustion is maintained night and day, the product being removed from below the fire and disposed of as lime at the gas-works, where it is used in the process of purifying the gas. It was on the top of the warm partition wall between two of these slow fires that the man selected his resting-place some time after ten o'clock of the evening before his dead body was discovered. When found, the body was lying upon its left side, close to the edge of the furnace mouth, so close, in fact, that the right hand, which lay across the breast and extended over the burning mass, was charred from the finger-tips to the wrist, while the skin of the left side of the face — the forehead, eyelids, nose, cheek, and lips — was baked so that it was hard, dry, and inelastic, like parchment. The cuticle at the bend of the left elbow and upon the outer aspect of the left thigh was reddened in patches, and could be stripped off, leaving the underlying true skin rosy red in color ; and there were other reddened patches from which the cuticle could not be loosened. But in no instance was the epidermis raised into a true vesication, — a fact tending to strengthen the presumption that the burning was post mortem. Another remarkable fact was that neither the hair nor the clothing showed any mark of fire ; the epidermis of the scalp, indeed, was so affected by the heat that in raising the head a handful of hair came away, but the hair itself was of natural appearance.

An autopsy was made twenty-eight hours after the finding of the body. Externally, the body presented nothing remarkable beyond the appearances caused by the heat as above described. The internal appearances were sig-

nificant. Without detailing them specifically, they may be summarized as follows : —

(1.) There was remarkable hyperæmia of all the organs, except the spleen. The brain, the lungs, the heart and its cavities, the liver, the kidneys, stomach, and intestines presented varying degrees of congestion, from complete engorgement, as in the right side of the heart, to fine punctate injection in the mucous lining of the stomach and intestines. The vessels of the cerebral meninges were filled, and the puncta cruenta of the cut surface were well marked. Of the intestines, the duodenum was most intensely reddened, but there was no portion in which the appearance was perfectly normal in this respect.

(2.) The character of the blood was peculiar. Its consistence was uniformly fluid ; there were no clots. Its color was, however, its most remarkable quality, the shade being a bright vermilion or lobster-red. In both color and consistency it resembled quite nearly the carmine ink of the stationers. This character gave to the injection of the intestines and to the muscular tissue a brilliancy of coloring that was very striking. It was also persistent, no perceptible alteration in the shade occurring during the two hours of the autopsy. Moreover, the color of the blood was the same in all parts of the circulation.

The question may fairly be asked if it is possible, in view of the composite character of the products or gases of the combustion of coke, to fix upon the offending agent in this case to the exclusion of the others ? Recognizing the extremely poisonous character of carbonic oxide gas and the opportunity for its abundant evolution in the present instance ; recognizing especially the peculiarly striking and characteristic alteration in the color of the blood, due, as is held, to the formation of a fixed compound of carbonic oxide and hæmoglobin, I am led to the conclusion that in this case there is little doubt that the carbonic acid gas, the vapors of sulphurous acid, and the organic products from the oyster shells were all inferior in their toxic action to the carbonic oxide which was with them.

DR. T. B. CURTIS said that inhalation of the fumes of burning charcoal was a favorite method of suicide in Paris, and he believed that this bright red color had been noticed in such cases. He further remarked that there was a theory prevalent in Paris that heated cast-iron stoves become pervious to carbonic oxide gas.

DR. DRAPER mentioned that the late Dr. George Derby had also maintained that cast-iron, when heated, was pervious to carbonic oxide, and he therefore had a wrought-iron furnace in his house.

*New Urethrotome.* — DR. T. B. CURTIS showed a new urethrotome, on the subject of which he made the following remarks : Much attention has been devoted of late to wide or incipient stricture of the urethra. Until a few years ago it was not customary to admit the existence of stricture in any case unless micturition had begun to be distinctly impeded. It has, however, been shown that strictures are in most cases of very slow and gradual formation, and that an early stage of long duration exists, during which the act of urination is not appreciably disturbed. The chief, often the only symptom which



then attracts attention is gleet. In the great majority of cases of gleet, if not indeed, as is maintained by Dr. F. N. Otis, in all cases, a careful examination with the bulbous bougie shows the presence of one or more urethral contractions. These are generally situated in the anterior portion of the canal, and often have a calibre but slightly inferior to that of the healthy, uncontracted portions of the urethra. The slight contractions existing in such cases are the cause of the gleet, which is alone complained of. If we wish to cure the latter we must first cure the former by restoring the full normal calibre throughout the passage.

The difficulty or impossibility of curing gleet by means of medicinal agents alone is well known to all practitioners, and is illustrated by a *boutade* of Ricord's. That experienced specialist once said that he knew well the punishment which was in store for him should he be sent to hell after death. He was there to find himself surrounded by sufferers from gleet, from whose supplications and reproaches there was to be no escape. If, however, Dr. Otis is correct in his views regarding the cause of gleet, this disease need no longer be the opprobrium of the surgeon. It is only necessary to cure the incipient stricture and the gleet will disappear.

In the majority of such cases gradual dilatation by means of steel sounds is no doubt the treatment to be preferred. Not unfrequently, however, this method proves ineffectual, many of the wide anterior strictures in question being found to belong to the class of strictures called "resilient." They are, moreover, too elastic to admit of rapid dilatation or divulsion. In such cases what course is to be pursued? Shall the surgeon persevere in the treatment by bougies, indefinitely, against hope? Shall he again rehearse the already exhausted list of balsamic drugs and injections? Or must he resign himself to defeat, and assure his patient that the drop of discharge is of no consequence and requires no further treatment?

Another too much neglected remedy remains, namely, internal urethrotomy. This operation is in all cases much less dangerous than seems generally to be supposed, and when practiced in the anterior portion of the urethra it appears be entirely without risk, as was recently stated by Sir H. Thompson. "The nearer a stricture is to the orifice of the urethra the more necessary it is to cut, and the safer it is to do so."

This urethrotome, which was made for me by Messrs. Leach and Greene, of this city, is designed for dealing with the wider class of strictures, ranging in calibre from 16 (French scale) upwards. It is generally recognized that the best means of determining the exact situation, calibre, and extent of contractions consists in the use of acorn-tipped or bulbous bougies. The safest urethrotome, on the other hand, is that of Civiale, which cuts on withdrawal, from behind forwards. In my urethrotome the advantages of these two instruments are combined. It consists of a series of acorn-shaped bulbs, nine in number, ranging in size from 16 to 34, which by a simple mechanism (a tip screwing on and off) can be readily adapted to a staff similar to that of Civiale's instrument. Each bulb has a slit through which the blade is made to protrude by drawing back the handle. By a simple device, more easily recognized than described, the surgeon can set the instrument beforehand, so as to regulate

exactly the degree of protrusion of the blade and the depth of the incision according to the exigencies of each case.

In using the instrument, a previous examination with bulbous bougies having shown the exact situation and calibre of the stricture to be divided, a bulb must be selected which will just penetrate through and distend the contraction to be divided. This bulb is adapted to the staff, and the instrument is set so as to allow a sufficient issue of the blade. The instrument is then passed into the urethra until the bulb, having penetrated through and just beyond the stricture, is felt to be free, while on attempting its withdrawal it is slightly held. The blade is then made to issue, and the instrument is withdrawn until the protruding blade has traversed the stricture. The blade is then returned to its groove and the urethrotome is removed from the urethra. The subsequent treatment is that required in all operations for stricture.

The advantages of this urethrotome consist in the certainty and security with which the extent, depth, and precise situation of the incision can be regulated, and in the efficient way in which the diseased tissues, stretched around the distending bulb, are divided by the knife.

In conclusion, I must mention that since designing this urethrotome I learned that an instrument of a similar character, called the *bulbous urethrotome*, had been invented by Dr. F. N. Otis.<sup>1</sup> This instrument has movable bulbs ranging in size from 20 to 40. It differs from mine in the mechanism by which the bulbs are changed, and in that which governs the issue of the blade, as well as in other particulars. Dr. Otis seems, however, to have abandoned this instrument, using in preference his *dilating urethrotomes*.

JANUARY 14, 1878. *Multiple Urinary Calculi ; Sacculated Bladder.* — Dr. WARREN showed specimens of multiple calculi removed from a sacculated bladder after death. The patient, a shoemaker fifty-two years of age, had had symptoms of vesical disease for twelve years. The urine was alkaline, contained pus, and was passed frequently and with pain. An examination with a sound detected a stone. Some vesical fever followed the passage of the instrument, and the urine became strongly ammoniacal ; an attempt was therefore made to wash out the bladder with warm-water injections, but the expulsive efforts were so great as to force out not only the water as fast as injected, but also the soft-rubber catheter employed. Finally, a small quantity was introduced at a time, but however often repeated it came away dark and foul in odor. All symptoms grew worse, the urine was passed in a putrid state, and the patient died on the ninth day after examination.

At the autopsy, the bladder was found to consist of four compartments, three of which contained calculi. In the central one was a large phosphatic stone nearly spherical and five centimetres in diameter. The other stones were about two centimetres in their longest diameters, and were somewhat flattened. They were dense, and probably consisted of urates. The walls of the bladder were much thickened, and there was a diphtheritic inflammation of its mucous membrane. The kidneys were large, soft, and contained small abscesses ; the ureters were dilated.

<sup>1</sup> A Description of Instruments, etc. By F. N. Otis. New York. G. P. Putnam's Sons. 1875. Page 7.



Dr. Warren also showed the heads of the two femora of a child three years of age, in whom excision of both hips had been performed for disease following scarlet fever. The first operation was performed on the right hip in September last, a large periarticular abscess being laid open at the same time. A drainage tube was left in. In November the left hip, which was also in an advanced stage of the disease, became much swollen, and a periarticular abscess in the neighborhood began to enlarge. The head of the bone was accordingly removed, and the abscess, being laid open, was found to communicate with the diseased joint-cavity by a small and circuitous opening. Buck's extension apparatus has been used occasionally. At the present time the child has gained considerably, although there is moderately high evening temperature persisting.

*Coagulated Fibrin simulating Polypus of the Ear.*—DR. J. O. GREEN showed the specimen, from a healthy man aged seventy-three years, who a short time after scratching the ear with a pin began to have violent pain and throbbing, which continued for twelve hours, and was then relieved by a profuse serous discharge. Examination showed inflammation of the tympanum, with rupture of the membrana tympani, and profuse, thin, serous discharge. The next day the serous discharge was still free, and the deeper meatus was filled by a red mass, freely movable, and simulating a polypus with a small pedicle; this was seized with the forceps, easily removed, and was found to be attached in the perforation. Under the microscope the mass showed a network of finely granular fibrillæ intermixed with occasional blood-corpuscles, and was evidently coagulated fibrin, the red color of which was due to the blood-corpuscles. On the third day of the inflammation another small mass had coagulated outside the perforation, and was removed; the tympanum had become filled nearly solid with the same mass, as was seen by the color and by touching with a probe; the serous discharge still continued. By the fifth day all discharge had ceased, and in two days more the perforation had healed. No pain was felt after the first day, and there was no complaint of subjective noises. The hearing had been most seriously damaged many years before by purulent tympanic inflammation, which had healed, but the slight degree of hearing left by the old disease was still further impaired by this inflammation.

A similar variety of exudation occurring in a previously healthy ear must, almost of necessity, produce a very serious interference with the functions of the tympanum from the adherence and subsequent organization of the fibrin on the conducting apparatus.

*Severe Neuralgic Pain following Herpes Zoster.*—DR. F. C. SHATTUCK read the case. In December, 1876, he had been consulted by a gentleman of about thirty-five years of age for violent neuralgic pain, starting from the space between the right scapula and the spinous processes of the vertebræ and extending down the arm into the fingers. The attack had already lasted several days, but had now become unbearable. Soon after the commencement of the attack the patient had noticed that the first two fingers of the right hand were numb, and that writing was thus rendered difficult. A fortnight before, there had been a similar attack of less duration and intensity, which had disappeared suddenly without treatment. Dr. Shattuck learned from the patient

that in August, 1876, he had had an attack of zoster, which involved the whole circumference of the right side of the thorax, and was so severe in character as to have given rise to extensive ulceration, as was shown by the presence of a large number of small cicatrices. The treatment which was followed had not been such as could have caused the ulceration. A subcutaneous injection of morphia was immediately given with the desired effect; it became necessary to repeat it once on each of the two following days, and then the pain ceased altogether. Ten days or a fortnight later, however, the patient appeared again with a return of the neuralgic pain, and required one or two further injections. Brown-Séquard's anti-neuralgic pill was then substituted. The patient was obliged to take one of these occasionally during several weeks, but finally the pain left him altogether, and has never reappeared except about a month ago, when he had a twinge of pain in the same situation and of the same character which did not last more than half a minute.

Though neuralgia, as a sequel of zoster, is mentioned in nearly all the text-books on cutaneous disease, and in many of those on general medicine, Dr. Shattuck was still inclined to believe that it was by no means common. Hebra and Kaposi state that it is sometimes so severe and obstinate as to render life a burden to the unhappy subject of it. Dr. Wigglesworth had told him that in his experience pain was less prominent as a symptom of zoster in this country than in Germany. It is a curious fact that the irritation or inflammation which persists or recurs after a typical attack of zoster should never again manifest itself by the cutaneous eruption, though it not unfrequently does so by neuralgic pain. Dr. Shattuck said he believed the remarkable case of the nurse in the General Hospital in Vienna, who had repeated attacks of the disease, remained the only one of the kind on record.

DR. GREENOUGH in commenting on the case said he had seen two cases in which neuralgia had followed herpes zoster. The result of his observations at the Boston Dispensary had been that the amount of pain in zoster was usually proportional to the age of the patient. Dr. Damon coincided with Dr. Shattuck's quotation of Dr. Wigglesworth's opinion that neuralgias following herpes were not common in this country.

DR. BIGELOW remarked that he had seen a patient, an old lady, in whom a deep, vesicular, herpetic eruption, lasting many months, had been followed by neuralgia shooting down from the cervical vertebræ into the arm.

DR. AYER spoke of a gentleman who had herpes on one side of the forehead, on the eyelids, and extending to the hair of the head; in this case the eruption was followed by pain more or less neuralgic in character, lasting for several months.

DR. WILLIAMS had had three cases of pain following herpes frontalis; the pain was agonizing; in each case there had been considerable ulceration attendant on the herpes, which in two cases had been accompanied by a recurrent ulceration of the cornea. In both these cases there was also a recurrence of the neuralgia, in one several weeks, and in the other several months, after the first attack.



## SOCIETY REPORTS.

THE present season has yielded the fruits of the labors of various medical organizations, which held their meetings in the spring, in the shape of annual reports. Foremost among these we notice the bulky volume of the national association, perhaps the most prominent feature of which is the fact that a greater amount of space is occupied by Massachusetts than any other State. This looks as if "harmony" were once more restored. We find the address of the president, Dr. Bowditch, who also contributes a brief paper on aspiration of the chest; two papers by Dr. Martin, one of which is a very elaborate report on animal vaccination, with illustrations; Dr. Marcy and Dr. Kimball also appear among the contributors. The names of Gross, Bozeman, and Hodgen show that the association is not without the support of prominent men. Dr. Sayre, we need hardly say, figures conspicuously with mechanical apparatus. This gentleman enjoys the rare honor of a biographical sketch by Mr. Henri L. Stuart (author of a similar article on Dr. Sims), with engraved portrait, in the *Virginia Medical Monthly* for January, which number contains the transactions of the meeting of the Medical Society of Virginia held at Petersburg in October. We approve of the principle which throws society work into the medical journals, but we find in this report evidences that the old form of a separate publication is still jealously adhered to, the journal being obliged to swallow this large fragment of "a volume" in a single lump. The craving for elaborate reports on the part of our societies is, we are glad to say, diminishing in direct ratio with the increased enterprise of our medical journals, and we hope the custom will soon become a thing of the past.

The handsome and carefully prepared volume of the New York State Society fails to give any internal evidences of a *raison d'être*; there are a number of elaborate papers, one, by Dr. Vanderveer, of Albany, on cleft palate being especially noteworthy, but none which might not have appeared more appropriately and much more promptly in the pages of a periodical. The same may be said of the Ohio State Medical Society Report, which is also before us. These volumes, when confined to their proper sphere, are no doubt useful; they should contain matters of special interest to members of the society, and full accounts of business meetings; they would also be a useful repository of presidential addresses and long obituary notices. They should occupy the place of a useful business document rather than aim to assume the plumage of an ornamental literary production.

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MEDICAL NOTES.

—We have news of the recent death of Professor Dietl, of Krakow; of Regnault, the celebrated French chemist; of Becquerel, an equally renowned French physicist; of Ludwig Fleischmann, of Vienna; of Professor Ghinozzi, of Florence; of Professor Hirtz, a valuable member of the medical faculty of Nancy; and of Dr. Churchill, the distinguished obstetrician, who died in Ireland, January 31st.

— Efforts are being made in Russia to abolish the law which obliges the physician to visit any one who may call on him. As it now stands he who refuses to go is liable to a fine of from five to ten roubles for the first offense, of from ten to fifteen for the second, and of from fifty to one hundred for the third. Moreover, any physician so offending, who may be in the service of the government, is liable to dismissal. The worst of it is that the law is no dead letter, but is actually enforced. In 1869 a similar law was repealed in Prussia.

— A letter to the St. Petersburg *Med. Wochenschrift* states that Montenegro has no scientifically educated practitioners. The whole medical practice of this district is in the hands of one family, Jlitchkowitsch by name, whose scanty professional knowledge has been handed down from one generation to another. Ten members of this family are now engaged in the practice of surgery, which consists chiefly in the application of splints, frequent cauterization of recent wounds, and drainage of gunshot wounds with the use of tow. They know but little anatomy, and dread hæmorrhages. They remove enlarged glands, extract foreign bodies, and trephine; otherwise do no operations. Trephining has been done four or five times in the same individual, almost every slight injury of the head being supposed to require it. Prince Nicholas's private surgeon is a Frenchman, but he is not consulted by the people.

— At the Murray Royal Asylum for the Insane, Perth, Scotland, persons of both sexes are received for training as attendants. A system of pensions has also been established, after fifteen years' service, at rates based upon those of the Scotch civil service superannuation act of 1859, — the pensions not exceeding two thirds of the total money value of the office at the time of retirement. Both wages and pensions are made proportionate to the quality as well as to the duration of the service rendered.

— According to the *Journal de Médecine et de Chirurgie Pratiques* for February, 1878, Dr. Huques, of Nice, finds that one insertion of vaccine virus in each arm is better than a greater number of insertions, inasmuch as protection is equally well secured, and accidents, as of inflammations, etc., avoided. The protection, he maintains, is as perfect, since subjects on trial are as insusceptible to subsequent revaccination after one insertion as after six.

— The *Popular Science Monthly* publishes the following: A square metre of wall of a surgical ward in the Paris Hôpital la Pitié was washed, an operation that had not been performed during two years previously, and the liquid wrung out of the sponge was immediately examined. It contained micrococci in abundance, some micro-bacteria, epithelial cells, pus globules, and ovoid bodies of unknown nature. The sponge used was new, and had been washed in distilled water.

— The most recent official return gives the following rates of mortality per 1000 of the population of the principal foreign cities: Calcutta 45, Bombay 40, Madras 101, Paris 27, Brussels 25, Amsterdam 28, Rotterdam 26, The Hague 16, Copenhagen 21, Stockholm 25, St. Petersburg 34, Berlin 25, Dresden 22, Munich 34, Vienna 28, Buda-Pesth 43, Rome 22, Naples 28, Turin 30, Venice 27, New York 20.



## HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA.

## NOTES OF PRACTICE AND PECULIARITIES OF TREATMENT.

*Pelvic Peritonitis and Pelvic Cellulitis.* — A full hypodermic dose of morphia and twenty grains of quinia internally are administered immediately after the appearance of the first symptoms. If the attack cannot be aborted in this way, the abdomen is painted with iodine and a poultice is applied. Keeping up the use of quinia, about thirty or forty grains should be given in the course of twenty-four hours. Large doses of morphia are also continued. If the woman be plethoric the morphia may be given by the mouth, with neutral mixture and wine of ipecac. In some cases tonics are demanded. If the attack lasts for more than a week and the local tenderness increases, a blister is applied over the spot of greatest tenderness. In later stages the following is a very excellent prescription :—

R̄ Mist. glycyrrhizæ comp.	f 3 vi.
Ammoniæ muriatis	3 ij.
Hydrarg. chloridi corrosivi	gr. i.
Tinct. aconiti radicis	gtt. xxiv. M.

S. A tablespoonful in water every six hours.

*Tetanus.* — Systematic feeding of patients with liquid and strengthening food has been tried with excellent results. The food must be given at intervals of every two or three hours, and should consist mainly of milk with a small quantity of alcohol. In severe cases all solid foods should be avoided. As regards medicines, the patient must be brought well under the influence of the bromide of potassium by an initial dose of from two drachms to half an ounce, to be followed by from half a drachm to a drachm every three or four hours. To force sleep at night, give at bed-time thirty grains of chloral, with opium. Nitrite of amyl and chloroform should not be used steadily, but will stop violent spasms. Where there is much cerebral congestion a blister is applied to the back of the neck.

*Ulcer of the Stomach.* — Nitrate of silver, in the form of pills, is given in full doses half an hour before meals. If there be pain, opium, hydrocyanic acid, or chloroform will relieve it. An exclusive milk diet is the best. Solid food should be altogether eschewed. At the time of hæmorrhage, absolute rest must be insisted upon, and pieces of cracked ice and tannic or gallic acid should be taken internally. Morphia may be administered by the mouth and ergotin hypodermically. All food for the time being should be given by the rectum.

*Amenorrhæa.* — In such cases the very best results have been obtained by the constant use of the following pills :—

R̄ Pulv. ferri sulphat.,	
Potass. carb. puræ	āā 3 ij.
Mucil. tragacanthi	q. s.

M. et in pil. No 48 divide.

S. To be given daily in doses gradually increasing until three pills are taken after each meal.

This gives the large quantity of twenty-two and a half grains of the dried sulphate of iron per diem.

If these pills constipate, the following is an aperient mixture : —

R̄ Pulv. glycyrrh. rad.,	
Pulv. sennæ . . . . .	āā 3 ss.
Sulphuris sublim.,	
Pulv. fœniculi . . . . .	āā 3 ij.
Sacchar. purif. . . . .	3 iss. M.

S. One teaspoonful in half a cupful of water at bed-time.

*Diet and Medication in Saccharine Diabetes.* — The best diet for a diabetic patient is : for breakfast, eggs and any kind of meat or fish (except oysters), gluten bread, and tea or coffee with milk and without sugar ; for dinner, tomatoes, lettuce, onions, spinach, string beans, meat, light sour wine, and lemons, or perhaps oranges, but none of the sweet fruits ; for supper, about the same as for breakfast. None of the starchy foods, no alcohol, and no sugar should be allowed.

Among drugs opium is the most valuable. Of this a large amount can be taken daily without producing any of the symptoms of poisoning. In one case as many as seven grains were given per diem. This large amount of the drug had no deleterious effect further than the production of constipation. The opium directly, by diminishing all the secretions, or more probably by its action on the nerve centres, relieves the excessive thirst and voracious appetite, and diminishes the amount of urine and of sugar in the urine. In one case the daily amount of urine was reduced from twenty-eight to eleven pints per diem. The total quantity of contained sugar was also reduced.

Ergot, which acts in simple diuresis almost like a specific, may be used in saccharine diabetes with much profit in doses of one drachm of the fluid extract four times a day. Where the skin is rough and dry, jaborandi is of great value by reason of its powers of diuresis. If jaborandi be used, the opium and ergot must be stopped for the time being.

*Chorea: A New Treatment.* — In connection with a recent case of chorea in an adult female, the drug known as skunk cabbage, or dracontium, has been tried with good results. A saturated tincture of the rhizoma was prescribed in doses of ninety drops thrice daily. The supply of this drug for use should be obtained at the markets, and not at the drug stores. The best time to lay in a stock of dracontium is in the fall, and it should be at once made up into the form of a tincture. The root must not be dried before using. The effects of the dracontium are probably due to some volatile principle which it contains.

*Hæmatoma in Douglas's Pouch.* — The patient must be kept absolutely quiet, and astringent drinks, such as sulphuric acid, lemonade, etc., be administered. Opium enough should be given to lull the pain and keep the patient thoroughly quiet. For a number of hours following the attack very slight nourishment is allowed. Stimulants should be refrained from, and the patient kept as low as possible until all immediate danger from peritonitis has passed away. The vagina should be packed with ice, or if desirable ice may be placed upon the abdomen.

*Chrysophanic Acid in Chronic Psoriasis.* — An ointment with the strength of one drachm of the acid to one ounce of simple cerate was used. This ointment was well rubbed into the skin of the whole body every evening. After



this treatment had been persevered in for four days the skin became much paler and smoother, and the scales began to disappear.

*Ergot in Diabetes Insipidus.* — The patient was put upon an initial dose of half a drachm of the fluid extract thrice daily. The dose was gradually increased, first to one and then to two drachms. There was almost immediately a great reduction in the quantity of urine passed daily, from ten to three pints. This is the third case in which the ergot has been so successful in rapidly reducing the daily quantity of urine passed.

*Jaborandi in Pleural Effusion.* — One drachm of the fluid extract of jaborandi was ordered four times daily. The results were truly marvelous. The temperature has fallen to normal, and is steady there; the chills, pain, and dyspnoea have entirely gone, the pulse and respiration are normal, the physical signs of the effusion have all disappeared. The jaborandi has caused profuse diuresis and diaphoresis. (The French clinicians have of late years used this drug with great success in cases of obstinate pleurisy.)

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### TREATMENT OF EPILEPSY.

MR. EDITOR, — In an article on The Brown-Séquard Treatment in Epilepsy, which was published in the JOURNAL December 27, 1877, there occurred a typographical error in the second line of the principal prescription. As the correction which appeared in the following number of the JOURNAL was overlooked by many, will you please republish it?

The prescription should be written as follows:—

R̄ Sodii bromidi,	
Potassii bromidi,	
Ammonii bromidi . . . . .	āā 3 iij.
Potassii iodidi,	
Ammonii iodidi . . . . .	āā 3 iss.
Ammoniae sesquicarb. . . . .	3 i.
Tinct calumbæ . . . . .	f 3 iss.
Aquæ destillat. . . . .	ad f 3 viij. M.

Full dose: one and a half drachms before each meal, and three drachms at bed-time.

Yours,

JAMES B. AYER.

March 8, 1878.

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OBITUARY. — The following resolutions were passed at the last meeting of the New England Psychological Society:—

*Resolved,* That in the decease of the late Dr. John E. Tyler, of Boston, Mass., this society has lost one of its most earnest and most useful members; that we have been deprived of a cheerful, cordial, and ever agreeable associate; and that the people of his adopted city have cause to regret the departure of one who could minister to a mind diseased with intelligence, skill, and a warm and sympathetic heart.

*Resolved,* That we extend to his afflicted family the acknowledgment of our heartfelt participation in their sorrow.

*Resolved,* That Dr. J. P. Bancroft be appointed to prepare a memorial of our deceased friend and present it at a future meeting.

*Resolved,* That the secretary furnish a copy of these resolutions to the afflicted family.

## COMPARATIVE MORTALITY-RATES.

	Estimated Pop- ulation, July 1, 1878.	Deaths during week ending March 9, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean of ten Years, '68-'77.
New York.	1,093,171	571	27.16	24.32	28.71
Philadelphia.	876,118	320	18.99	18.80	21.54
Brooklyn.	549,438	176	16.66	21.51	25.50
Chicago.	460,000	135	15.28	17.83	22.39
Boston.	375,476	162	22.43	20.10	24.34
Providence.	100,000	49	25.48	18.81	19.20
Lowell.	55,798	29	27.03	19.09	22.50
Worcester.	54,937	16	15.15	14.07	22.30
Cambridge.	53,547	14	13.59	18.69	20.83
Fall River.	53,207	24	3.46	21.35	24.96
Lynn.	35,528	11	6.11	20.42	19.67
Springfield.	33,981	5	7.66	16.04	19.77
Salem.	27,140	13	4.90	20.38	21.15

BOOKS AND PAMPHLETS RECEIVED.—Illustrations of Clinical Surgery, consisting of Plates, Photographs, Wood-Cuts, Diagrams, etc. With Descriptive Letterpress. By Jonathan Hutchinson, F. R. C. S. Philadelphia: Lindsay and Blakiston. 1878. (A. Williams & Co.)

Consumption and its Treatment with the Hypophosphites. McArthur.

Statistics, Medical and Anthropological, of the Provost-Marshal-General's Bureau, derived from Records of the Examination for Military Service in the Armies of the United States, during the late War of the Rebellion, of over a Million of Recruits, etc. Compiled under the direction of the Secretary of War by J. H. Baxter, A. M., M. D., Colonel, etc., U. S. A. In two volumes. Washington: Government Printing Office. 1875.

The Yellow Fever at Havana: Its Nature and Treatment. By Charles Belot.

Brewers' Argument before the Joint Special Committee on the Liquor Question, February 14, 1878.

Two Lectures. I. Lectures, Books, and Practical Teaching. II. Clinical Instruction. By W. T. Gaidner, M. D. Glasgow. 1877.

Observations on the African Yaws, etc. By Joseph Jones, M. D. (New Orleans Medical and Surgical Association.)

Compulsory Vaccination. By Joseph Jones, M. D. (New Orleans Medical and Surgical Journal.)

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## LECTURES.

BOSTON CITY HOSPITAL: CLINICAL LECTURE NO. IV.

BY DAVID W. CHEEVER, M. D.,

*Professor of Clinical Surgery in Harvard University.*

*Malignant Stricture of the Rectum.* — GENTLEMEN: We have here a case which, in the direction of diagnosis, is exceedingly interesting. As yet I have not examined the patient, but propose to do so now, under ether. She is a stout, middle-aged woman, short of stature, and for the past six months has been in gradually declining health. Her chief symptom is constipation, which has been the cause of hæmorrhage attendant upon the severe straining at stool. She tells us that on passing her finger into the rectum she finds a tumor, which *she* thinks is a pile, the only symptom of which is the bleeding on defecation. Now, the question is, What is the matter? To explore and examine the rectum is so easy that we shall have no difficulty in reaching the morbid growth. I think it best to put the patient into the position for Sims's speculum, which is as useful in the rectum as in the vagina. We place her in the semi-prone attitude, the left hand behind the back, the pelvis tilted up close to the edge of the bed, one leg flexed, and the shoulder held up to give the thorax sufficient play in breathing. This is the position for examination of both rectum and vagina. We take care to keep the face from falling into the pillow, as should always be done when a patient is under an anæsthetic. In examining the vagina with the Sims speculum, we draw back the rectum and coccyx, and thus get a good view of the vagina and uterus. In examining the bowel we draw back the coccyx by means of the speculum and secure just as good a view of the front and sides of the rectum. I now first introduce my finger into the vagina. The patient is unmarried, and has a well-developed hymen, which excludes any trouble in the vagina from child-bearing. The womb is small. Now I pass my finger into the rectum, by which procedure we can discover much. Just inside the margin of the anus are folds, swollen and of a violet color, probably hæmorrhoids and some congestion of the mucous membrane. Around the anus and rectum, near the sphincter, are neither growths nor pendulous masses, and a smooth,

healthy condition extends up as far as three inches from the anus. The rectum here, as usual, is a large sac, and is normal. Above and beyond this portion of the rectum is a hard mass, in shape like a uterus, and, like it, has an opening with distinct lips. Judging by my memory of other similar cases, I have my own idea of the nature of this body. I now introduce the speculum, and first discover the reddish, gelatinous fluid, with a good deal of blood, of which the patient has complained. The morbid body has a large posterior and a small anterior lip. The folds of bowel around the body are precisely like the folds of vagina around the uterus, known as "Douglas's fold." As the tumor is not far from the anus probably we can bring it into sight, by using a large glass vaginal speculum. Beginning with a small one, in order to stretch the rectum, I try my different specula, and find that with none of them can I succeed in bringing the tumor into view. We will see what can be learned by using both hands, passing the finger of one into the vagina, of the other into the rectum. Per vaginam I find a large, hard, cylindrical mass, extending high up in the rectum, and not connected with the uterus, which is small and lies in front of the abnormal growth. There is no polyp in the rectum, no abscess, fissure, nor fistula. What is this body? It is a stricture of the rectum, forced downward like a prolapsed uterus. It is the rectum folded upon itself and thickened like the doubled finger of a glove. We have then a tumor between the mucous and muscular coats or upon the mucous membrane, at a point three inches up the rectum, but we do not know how high it extends. I will not positively say it is malignant, though it probably is cancerous. Having seen similar cases I speak knowingly. In a recent case, which I saw in consultation, I satisfied the surgeon (who had been unable to reach the obstruction with the finger) by means of the Simon method, namely, introducing the whole hand into the rectum. I found the conditions the same as in this case. The patient gradually failed and died. The growth was removed post mortem, and sent to me for examination. It proved to be malignant in character, and there was infiltration of cancer in its neighborhood.

We cannot operate in this case without killing the patient, because the disease extends above the peritoneal reflection. The treatment must be palliative, namely, good nourishment, laxatives, and the prevention of hæmorrhage. In a few weeks we probably shall have to dilate the stricture by means of elastic bougies. In the case just mentioned I accomplished this by introducing my entire hand into the rectum, and then passing the bougie up into the stricture. By means of electricity we might possibly relax the stricture by causing absorption. This is a new operation which is sometimes used in organic stricture of the urethra. The current is passed down into the stricture through a protecting catheter. This and dilatation with bougies are all we can do



locally. The patient will probably be worn out by the disease. In case of entire obstruction colotomy offers the only remaining relief.

*Painful Subcutaneous Tumor.*—I now bring before you a middle-aged woman, who enters the hospital because of a small tumor in the subcutaneous tissue of the lower third of the leg over the peroneus muscle. This body has existed for twenty years, and by its excessively painful character has given the patient great annoyance. I think it probably is a fibroid growth in which a nerve fibre has been caught, and hence the intense suffering. Making an incision over the tumor, I dissect it out gradually and carefully. As you may observe, it is hard, lobulated, pearly in color, and about as large as a small filbert. In the wound nothing more is to be felt.

This case is rather uncommon. I have previously had but one like it. This also was on the leg. The patient was a washerwoman, and for years had suffered quite severely from neuralgic pain in this spot. As I saw her frequently after the operation I can positively state that the operation cured the pain. This tumor will be preserved for microscopic examination. On section we may find an imbedded nerve fibre. We now simply close the incision with sutures. Sometimes these painful nodules are due to the presence of a foreign body inclosed in plastic tissue which has been thrown out around it.

Some years since there came under my care a woman who had over the lower ribs and beneath the left breast a small, exquisitely tender and painful lump, as large as a small hickory nut. This body had troubled her for five years. On making an incision to remove it I found a needle, whose presence had been entirely unsuspected. The patient was a dress-maker, and had been in the habit of keeping needles in her dress, and for convenience, over the left breast. A needle will prick into and enter the skin and travel still deeper with very little pain at the moment of puncture.

*Double Fistula in Ano.*—This young woman has anal fistulæ of three months' duration. In cases of this nature the first step is to find the internal opening of the fistulæ, and this we do by introducing a probe into the external aperture, and feeling for its point with the finger in the rectum. I have often succeeded in tracing the inner aperture of the fistula by injecting milk through the sinus and finding it in the rectum. The milk is a bland, innocuous fluid, distinct in color, and therefore useful for this purpose. As regards the treatment of these cases I am in favor of cutting, that is, laying open the sinus with one stroke of the knife.

My experience in the use of ligatures has been bad. In three cases in which I used the rubber ligature every one of the patients was kept quiet in bed, and in every case the treatment was followed by œdema, local abscesses, and excessive pain. Introducing my probe into these

external openings, I find two fistulæ, directly in line with each other, there being one on each side of the bowel. The sinuses lead straight down into the rectum; the internal apertures are large, are situated just inside the sphincter muscle, and are also precisely opposite each other. Passing the speculum into the rectum I find the mucous membrane pale and quiet, showing no marked condition. Besides the external openings of the sinuses there are also several excoriated spots, which simulate fistulæ, but are only superficial ulcers. On the external genitals there is a single scar, and by the side of the entrance to the urethra a healing ulcer. There is undoubtedly a syphilitic history in this case.

By way of treatment I lay open the sinuses, and put the patient on specific remedies, beginning with one grain of calomel three times daily. We shall keep an oiled rag in the sinuses and anus in order that the fistulæ may heal from the bottom. To arrest hæmorrhage we pack the rag with small sponges, and apply a T-bandage over all.

*Croup; Tracheotomy.* — This little child, four years of age, has just been brought into the hospital by his parents and attending physician. He has croup, which came on gradually three days ago. There has been but little fever and no convulsive coughing. The child lost his voice yesterday, and as yet is but little exhausted by the disease. The face is sub-livid, but the nails are pink. Respiration begins to be difficult. There is considerable retraction of the lower ribs in breathing; the intercostal spaces are drawn in, and at the ensiform cartilage you see a deep pit with every inspiration. Both inspiration and expiration are noisy, wheezing, and rough. These signs are characteristic of an obstruction in the larynx.

The patient was brought to us for operative treatment, and I shall perform tracheotomy at once. In these cases the operation is almost always deferred until too late. If tracheotomy were done early, when the distress in respiration first became evident, more lives would be saved.

We first put the child under ether. In uncovering the throat I notice that with each expiration the thymus gland and loose tissue of the anterior mediastinum bulge up above the sternal notch. We should be careful to avoid this spot in making the incision. In a short-necked child this is sometimes difficult, for, if we can, we have to keep between the thyroid gland above and the thymus gland below. If we cut too near the sternum we endanger the horizontal veins, which are very large and constitute the innominata. The trachea, too, lies deeper near the sternum than it does higher up.

After many trials of dilators in stretching open the sides of the cut trachea, I have latterly abandoned them, and prefer two short, sharp tenacula on long handles, such as are used in operations on the palate. Making an incision in the middle line, and, if possible, avoiding the



thyroid veins, we dissect down nearly to the child's trachea. Now insert one hook into the left side of the trachea, parallel to it, and with the point directed upward; then insert a second hook into the right side of the trachea in the same way; give the left hook to your assistant to hold, take the other yourself; draw the trachea forcibly upward; plunge in your knife, and, cutting upward, divide three or four tracheal rings. Still drawing on the hooks you open the sides of the incision and insert the tube without difficulty. In this case as the knife opens the trachea there is a forcible gush of thick mucus with some distinct croupous membrane. There is but little hæmorrhage. We now insert the tracheal tube, and keep it in place by means of tapes passed around the neck. As our rooms are heated by steam, we have only to tap the radiator in order to secure a constant discharge of vapor into any room we may select. We thus convert an ordinary chamber into a steam closet. We shall put this boy into such a room, and so give him a moist atmosphere.

*Lupus.* — This middle-aged man has a chronic affection, which, as you will notice, has already proved very destructive. The entire soft tissue of the right half of the nose is gone; so are the septum and the vomer.

I think the disease is lupus, because as it advances it leaves cicatrices in its wake. My experience with rodent ulcer is that it makes steady progress, and never repairs or cicatrizes what it leaves behind; whereas, in this case, as new tissue becomes ulcerated the old ulcerations cicatrize.

On the left side of the nose the tissue has healed up to the granulating edge of the cavity on the other side. On the right are tubercles and ulceration, which are advancing into the nasal cavity, but the tissue of the face behind this mass has healed.

There is only one thing to be done, and that is to destroy the unhealthy growth with the galvano-cautery or by caustics. In this case we will employ the solid nitrate of silver. We first, however, etherize the patient, and then oil the face in order to prevent staining and injury by any of the caustic which may flow down from the morbid part. This mass which forms the real disease is soft, boggy, and rotten. I plunge the caustic into it in all directions, in some places going to the bone. There is a small tubercle on the left side of the nose. We bore into this with the nitrate until the bone is reached. Fomentations will hasten the separations of the sloughs.

## TREATMENT OF DECIDUOUS TEETH.

BY WILLIAM HERBERT ROLLINS.

DR. R. T. STACK, in his thesis last year at the Harvard Dental School, considered the important bearing which the death of the pulps of the deciduous teeth may have upon the eruption of the permanent set. From specimens obtained at the dispensary and at the infirmary of the Harvard Dental School he showed conclusively that teeth with devitalized pulps had proved sufficient obstacles to prevent the eruption of their permanent successors. On the roots of these teeth with dead pulps were found polished facets, produced apparently by contact with the permanent teeth, the excavaciones lunares having been almost polished out. I think this was the first positive evidence found which proved that teeth with devitalized pulps were less capable of undergoing absorption than teeth whose pulps were living. This discovery was of great importance from its direct bearing upon the treatment of children's teeth; Dr. Stack having shown that in the incisors, for example, a temporary tooth with a devitalized pulp may so change the position of the permanent one as to cause the latter to erupt inside of the arch, giving rise to a deformity which requires expensive apparatus to regulate.

Dr. Stack's conclusions were that a tooth with a devitalized pulp was not capable of undergoing absorption; that the loss of substance in these cases was caused by the action of pus or acid and acrid fluids, resembling in no way normal absorption, finding a parallel, so far as the pus went, in the loss of weight and specific gravity which occurs in osseous sequestra.

As an example he figured a tooth which had been extracted and replaced, but which never became firm, so was again removed. On this tooth were found rough places which did not indicate normal absorption, but were due to the erosion of pus or to decomposing oral secretions which collected in the socket around the tooth. I agree entirely with Dr. Stack in considering that temporary teeth with devitalized pulps are a very common, and by the profession unrecognized, cause of irregularity in the position of the permanent teeth; but I think he is mistaken when he states that absorption cannot take place in deciduous or in permanent teeth after the death of the pulp; of this, however, I shall speak later in this article, but first it seems desirable to mention other injuries which may result to the permanent teeth from allowing temporary teeth with devitalized pulps to remain in the jaws.

Although in the oral specialty the evidence with which to support any view is to a great extent traditional and not now accessible in printed form, yet it seems to me that those who think anything about the matter are nearly equally divided as to the treatment to be pursued with



temporary teeth when the inflammation of the root membrane has resulted in the formation of an alveolar abscess.

I suppose that the general practitioner, judging from results of abscess formation in other parts of the bony frame-work of the body, would not have fallen into the error of thinking too lightly of alveolar abscess when connected with the temporary teeth; but orists, accustomed to see chronic alveolar abscess associated with the permanent teeth which resisted all attempts at cure, persisting without apparent injury for years and years, have unfortunately in too many instances come to think there is equal immunity from injurious consequences when the abscess is connected with the temporary teeth; yet I shall endeavor to prove that no such immunity does exist.

Those who retain the deciduous teeth, even after the formation of alveolar abscess, claim that no injury can result therefrom; that the inconvenience to the patient is less than the injurious contraction of the jaws which results from their removal, producing, as the latter does, a loss of masticating surface at a time when, if ever, the organism needs an efficient apparatus for comminuting the food. Those orists who do not hold this view claim that the nervous irritability produced by the constant inflammation of the root membrane, together with the ever-present tendency to imperfect mastication on account of the local pain caused by the process, more than outweigh other considerations.

Figures 10 and 11 show two views of a superior right bicuspid which was given to me by Mr. Bright, a student of the Harvard Dental School. The patient, a young lad, presented himself at the school infirmary on account of pain in the region of the right upper molars.

On examination the remains of a temporary molar were found, while between its labial roots projected this tooth imbedded in the soft tissues, yet coming away without the employment of decided force.

Figure 13 is a diagram to show the close relations which the roots of the temporary molars hold to the crowns of their permanent successors.

As absorption takes place upon the roots of the molar, the bicuspid, pushed forward by constant formation at its neck, becomes on all sides embraced by the former, separated only by a membrane thin in many places.

Now if the pulp of the molar dies, inflammation of the root membrane resulting, we shall have in almost every case the abscess formed around the apex of the palatine root; the result of this will be cessation of the dentine formation in the part of the papilla nearest this point; moreover, if the inflammation becomes extensive enough, this, together with the anatomical structure of the part which causes the pus to open on the labial wall, although this is much farther removed from the original seat of the inflammation than the palatine, will explain how the growing tooth becomes separated from the dentine papilla, with its final casting out from the system as a foreign body.

This was exactly what occurred here ; the inflammation, at first localized, caused dentine formation to stop only at the point where the dentine papilla was near to the palatine root, so producing the difference in height between A and B in Figure 10, where A represents the part of the bicuspid nearest to the palatine root of the molar. At length the inflammation involved the whole surface of the dentine papilla, causing the dentine formation to cease forever.

I looked in vain for any mark of absorption upon the sections prepared from the bicuspid, so that whatever became of the dentine papilla it was evidently not converted into an absorbent organ.

I am inclined to ascribe a certain proportion, at least, of the cases of so-called dilaceration to inflammatory changes of the above-mentioned character, which do not go on to the destruction of the dentine-forming capacity, but simply stop this for a time at some point, or make it irregular, changing also the position which the formed portion of the tooth held to its germinal bed.

I do this the more gladly because the now employed explanation — that of mechanical violence — does not seem to be all sufficient when we consider how deeply in the jaw the growing tooth is placed ; besides, we do not obtain, even on the most searching inquiry, a history which will explain how such violence could have been committed.

From the foregoing we have seen how deciduous teeth with devitalized pulps may be injurious to the permanent teeth otherwise than by preventing their eruption or causing them to appear in abnormal positions, and I think the observations are of immediate practical value, as they point out the necessity of more careful attention to the teeth of the first dentition.

Now, to accumulate evidence to prove that teeth with devitalized pulps can undergo true absorption, as distinguished from destruction from acrid and acid substances. At the outset of search it is plain that in the case of a temporary or permanent tooth with a dead pulp at the time of extraction there will be room for a difference of opinion as to whether the marks of absorption, if such be found on microscopical examination, were produced before or after the death of the pulp. Cases have come under my observation where I thought the absorption had occurred after the death of the pulp, yet in order to prove that this was possible I have taken teeth which had been extracted, the root and crown filled with gold, and again replaced, to be after years the second time removed. On these teeth, figures of which are given, were found marks that to the unaided eye looked like absorption.

The history of but one of these teeth will be given, as the others do not differ in any particular which concerns us here.

The tooth from which Figures 1, 2, 3, 14, were taken was presented to the Harvard Dental School Museum by Dr. Cogswell. Its owner



was a male of middle age. The tooth was extracted for pulpitis, the decay being so extensive as to render filling out of the question. Finding a union of the roots, Dr. Cogswell decided to try replacing, as the tooth was of great importance, there being no other molars on that side of the inferior maxilla.

To see if the tooth would return into the socket easily it was pressed into place, after which it was removed from the mouth, the pulp extracted, the root and crown filled with gold, the ends of the united roots polished slightly, and then again placed in the socket, after having been out for three hours. The next day the tooth was employed in masticating beefsteak, while from the time of its replacement for five years and eleven days there was no sign of inflammation of the root membrane ; but three days before its final removal, when it came away with the exercise of only slight force, it suddenly became very painful, preventing closure of the jaws, nor would the inflammation yield to any of the therapeutical agencies employed. This suddenly appearing pain and lameness occurs in a great majority of those teeth which after being replaced become firmly united with the body ; in fact, Dr. Waters, who has had quite a number of these cases, has found this symptom in every one.

I consider this phenomenon of importance here, because it enables us to exclude pus or the products of the decomposition of the oral secretions as being the agents which produced the extensive loss of substance seen in the figures. Although pus burrows with extreme rapidity in the hard osseous tissue of the jaws (I have seen cases where in twenty-four hours a cavity had been made from the root of an incisor directly through the wall of the alveolus), yet it could not have been the agent here, for cutting away hard dentine would not have been moving along the line of least resistance.

In Figure 14 we have a view of a part of a section taken from the tooth shown in Figures 1, 2, 3 ; here plainly are to be seen the bitten-out edges — *excavationes lunares* — so characteristic of absorption in the deciduous teeth. Figures 15, 16, 17, show the same changes in other teeth.

Clearly, then, there has occurred in teeth with devitalized pulps absorption, which from the microscopical changes wrought by it cannot be distinguished from that absorption seen in deciduous teeth with living pulps ; but if stronger proof is needed that these lunar excavations seen in teeth with dead pulps are produced, as they are admitted to be in teeth with living pulps, by the agency of living cells, a reference to Figure 17 will furnish it ; for here the process of absorption taking place in a tooth that has been extracted and replaced after removal of its pulp has ceased at certain points, and a new formation of cementum-like tissue fills up the lunar excavations.

From the foregoing observations I consider it possible for absorption to take place in deciduous teeth after the death of the pulps; yet how shall we explain the fact pointed out by Dr. Stack, that these teeth have prevented the eruption of the permanent ones?

It is probable that inflammatory changes resulting from the death of the pulp of a deciduous tooth may so far weaken or destroy the thin membrane, which alone, at certain stages of development, intervenes between the most advanced portion of the permanent tooth and its temporary predecessor, that the former, driven forward by continued growth, may force its way through the weakened membrane, or advancing into the hiatus already created by suppuration may come in contact with the surface of the root of the temporary tooth, making absorption forever impossible at this point, although it might go on in other portions of the root.

Figure 12 is drawn from a microphotograph of one of the specimens of Dr. Stack; from A to B extends the polished surface, evidently too long to have been at one time created by the convex outer surface of an incisor. I presume that as the part of the root of the temporary tooth with which the crown of the permanent tooth came in contact was polished, the latter, pushed forward by growth, slid upon the smooth surface of the inclined plane, and the polishing process went on again a little lower down, producing in time the extended facet seen in the drawing.

*Summary.* I consider, first, Dr. Stack to have been the earliest observer who recognized the significance of the polished facets found upon the roots of the deciduous teeth; second, that he was also the first to show that a deciduous tooth with a dead pulp proved a great obstacle to the eruption of the permanent successor.

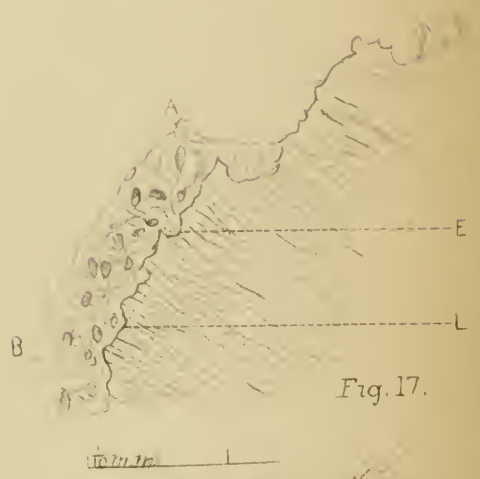
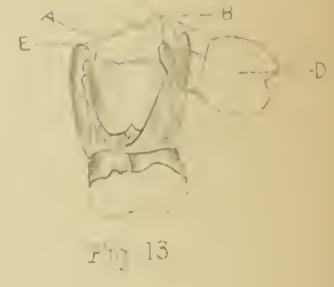
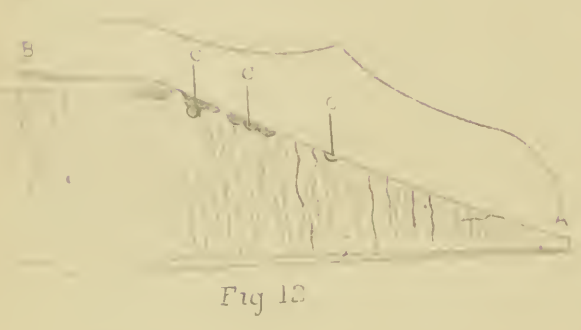
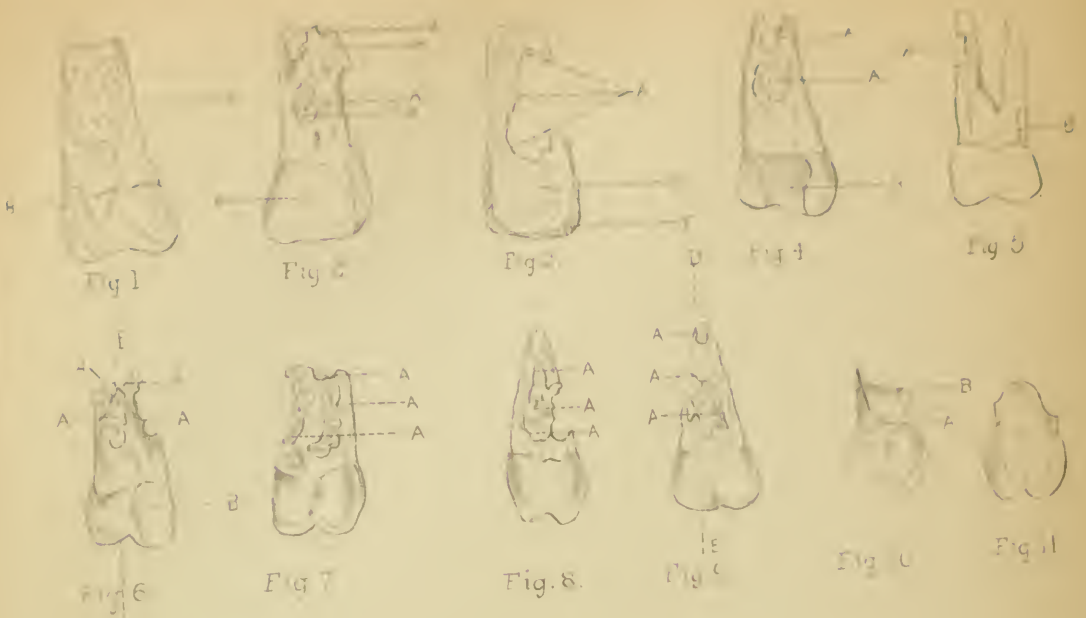
I think, however, that his statement of the impossibility of absorption taking place in teeth with dead pulps is incorrect, because absorption has taken place in teeth removed from the jaw and replaced after filling the root canal.

Inasmuch as a temporary tooth with a dead pulp has prevented the eruption of a permanent tooth, causing the latter when the former was removed to erupt in an abnormal position, it becomes important to take such care of the deciduous teeth as to prevent the pulps from dying, or if they die to see, as pointed out by the writer mentioned, that the teeth are removed before they can injure the permanent teeth by turning them from their proper course toward eruption.

In addition, it becomes of much importance that when inflammation of the root membrane goes on to the formation of an abscess that these teeth should be treated so as to keep the inflammation from becoming extensive enough to involve the dentine papilla of the permanent tooth. If the inflammation cannot be controlled, then the tooth must be ex-









tracted, for the loss of masticating surface is of less consequence than the life of a permanent tooth; nor, so far as I know, is there a well-authenticated case of contraction of the arch following extraction of deciduous teeth.

It is the plain duty of the general physician, who sees more of children in early life than the orist, to keep careful watch of the temporary teeth, pointing out the necessity of having these teeth attended to before they begin to ache, for then in almost every case it is too late to save the pulp in a healthy condition.

I consider it the duty of the orist to treat all cases of exposure, or approach to exposure, of the dental pulps in children's deciduous teeth with the least irritating substances which will protect the pulp from the action of decay, in no case using arsenic or creosote to devitalize the pulps; because, although with a great majority of pulps which are exposed we cannot obtain a new formation of dentine over the denuded surface, yet we can keep them alive for years without such covering by simple non-irritating fillings, and while the pulp is alive I do not think the temporary tooth can be injurious to the permanent successor by causing dentine formation to stop.

FIG. 1. Inferior right third molar extracted and replaced, after which it was worn five years and two weeks without being lame until three days before last extraction. A is a large cavity formed by absorption after the tooth was replaced. B, gold filling.

FIG. 2. Another view of the same tooth. Letters as before.

FIG. 3. Section of the same tooth, to show the extent of the cavity A in Figure 1. C, dentine. E, enamel.

FIGS. 4, 5. Two views of the same tooth, which was extracted and replaced, but after being used two years was again removed. Letters as in former figures.

FIGS. 6, 7. Two views of a tooth which was extracted and replaced. Letters as before.

FIGS. 8, 9. A reinstated molar. Letters as before.

FIGS. 10, 11. Superior right bicuspid, in which formation ceased from the inflammation resulting from alveolar abscess on the root of the temporary molar. B shows the point where dentine formation first stopped, this being the part nearest to the palatine root of the molar.

FIG. 12. Drawn from a microphotograph of one of Dr. Stack's specimens. From A to B extends the polished facet produced by the permanent incisor. C, C, C, remains of excavaciones lunares.

FIG. 13. Diagram to show the relation of the tooth shown in Figures 10, 11, to the root of the temporary molar. A and B, as in Figure 10. E, the point where the abscess formed. D shows the position the bicuspid came to occupy as it was being pushed out of the system.

FIG. 14. Section from tooth shown in Figures 1, 2, 3, shows marks of absorption. Section corresponds to the deep surface of the cavity A in Figures 1 and 3.

FIG. 15. A section from tooth shown in Figures 4 and 5. Plainly to be seen are the marks of absorption.

FIG. 16. Section through line D E, Figures 6 and 7, perpendicular to surface shown in Figure 6. The lunated edge corresponds to the deep surface of the cavity A in Figure 6.

FIG. 17. Section through the line D E, Figure 9, perpendicular to the surface of Figure 9. The new formation of cement-like tissue, A B, corresponds to the deep surface of the cavity A in Figure 8. E L, excavaciones lunares filled with cementum-like tissue.

INCURABILITY OF CONGENITAL COLOR-BLINDNESS.<sup>1</sup>

BY B. JOY JEFFRIES, A. M., M. D., BOSTON.

As most probably one person out of every twenty-five in the community is more or less color-blind, and as, besides the mortification or restricted sphere of employment this may entail, our lives and property are thereby endangered on railroads and vessels, the question of the curability of congenital color-blindness is one of considerable importance. Certainly the color-blind railroad employé or pilot should not be dismissed from service if he can be cured of his defect.

It has been till lately universally admitted by ophthalmic surgeons and physiologists that congenital color-blindness was incurable by any known means. In August, 1874, Dr. A. Favre, of Lyons, France, reported to the French Congress for the Advancement of Science, at Lille, some observations which seemed to him to prove that congenital color-blindness was curable both in children and adults by exercising the chromatic sense.<sup>2</sup> Dr. Favre has for the last twenty years or more, as consulting surgeon of the Paris-Lyon-Mediterranean railroad company, pressed the necessity of examining all railroad employés for color-blindness, led so to do principally by the results of Wilson and Potton. He has succeeded in inducing other roads to adopt similar precautions, and deserves great credit for his exertions. It is, therefore, due him to look carefully at his statements, as, if correct, they are of the utmost importance.

He reports the results in eleven different schools of the examination of one thousand and two boys between the ages of four and fifteen. These their teachers tested by asking them to name the color of objects exhibited of five principal colors. The teachers reported to Dr. Favre that they found at least two hundred and eighteen defective in chromatic sense, and that almost all were perfectly cured by being repeatedly shown objects and told the names of their colors *till they were learned*. Amongst one hundred and thirty-eight girls, from seven to fourteen years of age, Dr. Favre himself found only two whom he regarded as color-blind. These girls, he remarks, were under excellent teachers, and a large number had passed through the *salles d'asile* where colors were taught.

Dr. Favre then says, "The examination of these several reports shows that many children of both sexes come into the *salles d'asile* and schools without a notion of the elementary colors. The number of children lacking in this sensation in the majority of boys' schools I have visited is from twenty to thirty per cent. This ratio diminishes in proportion as the attention of the scholars is directed by their teachers to colored objects. Certain exercises, the painting of plans, geographical cards,

<sup>1</sup> Read at the Suffolk District Medical Society, February 23, 1878.

<sup>2</sup> *Le Traitement du Daltonisme dans les Écoles.* Par A. Favre. Lyon. 1877.



lessons in natural history, etc., have an evident influence on the scholars' progress in this sense. Amongst the girls, sewing-work, embroidery, the care of the clothing, the handling of flowers, much reduces at eight years of age the number of those who have difficulty in distinguishing one or more of the elementary colors. At this age the number of boys who make marked mistakes in naming colors is still quite large, and we have found that if the majority easily acquire a knowledge of colors, many of these need watchful and continued care, requiring to be examined periodically, so to speak, till we are assured of their cure. What is the best method to use in the schools? Experience may teach us further, but from our observations during the last five years we feel authorized to draw the following conclusions: Male and female teachers should be required (1) to question, separately, the scholars of their class as to the five elementary colors, and also as to white and black. (2.) To carefully record at the time of examination the scholar's replies against his name. (3.) The scholars who have made mistakes should be individually called twice a week, and the colors named before them; they should be questioned and taught till it is shown that they have acquired an exact notion of the elementary colors. (4.) There should be periodic examinations. (5.) Whenever occasion presents, the precise names of colored objects exhibited should be spoken before the whole class. (6.) An advanced course on colors should be given scholars destined for special professions, by the aid of Chevreul's color chart and the most commonly manufactured articles."

"The treatment of color-blindness in the adult also has given us very conclusive results, which we have embraced in an unpublished article presented to the Academy of Science." Dr. Favre says again, elsewhere,<sup>1</sup> "I call for the introduction of exercises with colors in all the schools, in the army, in the marine, and on the railroads. I am persuaded that by the precautions I have indicated a great number of accidents may be avoided, and I hope to be so fortunate as to cause congenital Daltonism to be stricken from the nosological list."

Dr. Favre has here undoubtedly simply mistaken the lack of knowledge of the *name* of a color for a lack of *perception* of the color. In this mistake he has been confirmed by the rather extraordinary reports from his several friends who were teachers. These latter, I must at once insist, were wholly incompetent to decide whether their scholars were color-blind. We must of course first positively prove the existence of the defect before we can talk about having cured it. It is next to impossible for even an expert to decide whether a child is color-blind by simply asking him to name the color of pieces of paper or other objects. It is, on the other hand, very possible to teach him a name

<sup>1</sup> Résumé des Mémoires sur le Daltonisme. Présentés à l'Académie des Sciences. A. Favre. 1875.

which he shall attach to the object, as it would also be to teach a congenital blind person. These children, supposed color-blind, are reported as cured by more or less exercise with colors, according to their individual quickness and memory in catching and retaining their names. Those that were dull, inattentive, and forgetful required repeated exercises before they retained the names of colors which were seemingly readily forgotten. This is perfectly shown by the teachers' reports.

The reported percentage of defective color perception found would of itself throw much doubt on the method of testing. For instance, as many as thirty out of fifty and fifteen out of thirty-five children are reported having "no notion of color." But ten per cent. is a very large ratio even when we include all cases of only slight color-blindness. Now these children were from four to fifteen years of age. How many school-boys at this time of life know the names of five colors, or, having heard them, will apply them correctly when questioned, without being specially taught? We should probably find it very different with girls, as did Dr. Favre. They use the names of colors much more frequently, and have more to do with colored objects in dress, trimmings, etc.

Those of us who possess normal color perception know how difficult it is to tell the difference between light greens and blues. This formed a large class among these supposed defective children, and they were reported cured in four or five exercises. A further convincing proof of the inadequacy of the test employed, and of the disqualification of the teachers as examiners, is shown by their reporting children as confounding those colors which the color-blind never do; for example, red and violet. I would not of course deny that amongst these thousand children there were any color-blind. Proof to the contrary exists in the statement of one teacher who says, "I sometimes despaired of curing one child, six and a half years old, who, after sixty-five exercises, could not tell me a single color without hesitation. Eleven exercises more, however, cured this unexampled Daltonian, who began by first distinguishing green, and finished by not always calling red yellow when shown him." This child no doubt was color-blind, and took this length of time to learn the name of a color to be repeated whenever the same object was shown him. If alive, I am certain this boy is as color-blind now as then, and any test not calling for the use of names would undoubtedly prove it. Professor Helmholtz, in his *Physiological Optics* (page 299, 1867), said, "As to the examination of the color-blind, simply asking them to name this or that color will naturally elicit but very little, since they are then forced to apply the system of names adapted to normal perception to their own perception, for which it is not adapted. It is not only not adapted because it contains too many names, but in the series of spectral colors *we* designate differences of tone as such, which to the color-blind are only variations of saturation



or luminosity. It is more than doubtful whether what they call yellow and blue correspond to our yellow and blue."

The lack of practical value of tests for color-blindness which require the examined to name colors has been well shown these last two years in the search for defective color perception amongst the *personnel* of the armies, navies, and railroads of Europe. It seems strange that Dr. Favre should have been led to conclude that color-blindness was so frequent as thirty or forty per cent., or that it was curable by exercise with colors, since his experience with railroad employes has been very large. He probably was deceived by using with these latter tests calling only for the naming of colors.

At first sight it seems only natural that we should be able to improve our color perception by use, as we may sharpen our other senses by exercise. But in the color-blind there is a congenital defect or deficiency. With the ear we may learn to distinguish sounds whose vibrations come within the range of our scale, but no amount of instruction can make us hear a note above or below the vibratory scale of our ear. A little practice will enable the normal eye to discriminate between the lighter shades of green and blue, which at first it had confounded, but no amount of exercise with colors can cause the color-blind eye to perceive those colors as we do, to whose ethereal wave lengths or numbers it is not adapted. However much practice may cultivate the power of an organ, it can never give that organ a different or additional power. I admit that constant exercise may enable a person only partially color-blind to improve his capacity for discriminating colors, but even then I do not believe he has altered his color perception, but only supplemented it by additional means, as we so often see other senses, when deficient, supplemented. Whether we shall ever be able to cure color-blindness is another question I am not in position to decide. I desire here only to state my belief, shared in at present by all physiologists and ophthalmic surgeons, that it has not been and cannot be cured by exercise with colors. From Dr. Favre's valuable researches, and his well-known and recognized connection with the present great advance in the testing for color-blindness amongst railroad employes and elsewhere, his belief in the curability of this defect might have undue weight. It must be remembered that he stands alone in this. I have therefore endeavored to show how and why he was mistaken, as others also might well be.

As to the necessity and value of teaching the names of colors in the lower schools, I entirely agree with Dr. Favre. No better proof of it can be given than the reports of his teacher friends, who found twenty to thirty per cent. of their pupils who did not know the names of colors, or could not apply them. Such recreations as color teaching would be interesting and valuable, since most probably all marked cases of color-blindness would be detected, and a scholar thus be warned in time not

to attempt work in after-life for which his defect unfits him, of which he cannot be cured by any now known means.

The palliation of color-blindness by the use of colored transparent media has proved of so little value that I will not discuss it here, as also the other even less successful methods of improving or correcting this congenital chromatic defect suggested by one or another in past years. I should perhaps not dwell on this point further, were it not that Dr. Favre's mistake might lead to dangerous consequences by quieting the fears of those whose attention had been roused to the necessity of testing for color-blindness. I therefore quote from one or two authorities in support of my opinion, and to show that not only is it incurable, so far as we yet know, but that it does not change with time. A congenital color-blind person dies so. Professor Wilson says: <sup>1</sup>—

"*Congenital* color-blindness is certainly incurable, and, when induced by injury or disease, it may become as irremediable as if it had been an inherited peculiarity; but certain forms of this affection from disease or injury are transitory, and admit of cure. So far as I can ascertain from the examination of the cases of congenital color-blindness within my reach, the amount of modification in the perception of colors, induced by age, is inappreciable, even though no allowance be made for that alteration in all the powers of vision which time produces on every eye. Thus, Dalton was certainly as color-blind at the Oxford meeting of the British Association in 1832, when he compared the color of his D. C. L. gown to that of the leaves of trees, as in 1792, when he first discovered his color-blindness;<sup>2</sup> nor did any change, so far as his associates were aware, occur in his perceptions of color up to his death in 1844. Mr. Milne, of Edinburgh, is still (October, 1854) as color-blind as he was when Mr. Combe described his case thirty years ago, and as he had been for years before his case was described. Professor N—— was examined as to his perception of color some thirty years since by Sir David Brewster, who has recorded his case. He writes me recently: 'I am under the impression that some change in appreciating colors took place in my eye between childhood and youth. As a child, red gooseberries seemed to me altogether blue, so far as I remember; latterly I have observed what I fancy red in this variety of fruit.' And again: 'I suppose sometimes that I can distinguish red in some objects, but probably this is from knowing that they are usually of this color.' But he adds: 'At any rate, I am quite sure I should make a dangerous railway signal man, as I most certainly would not know a red flag from a green one.' This gentleman further states, in answer to some queries, that *pink* still appears to him by daylight *blue* and by gas-light *green*, and that he continues to confound carmine-red by daylight with blue. There plainly has been nothing deserving the name of improvement in his case. Lastly, the Countess of D—— has not (in 1853) appreciably altered in her color-blindness since her peculiarities were described by Wallaston many years ago."

"Dr. K., a medical man, says: 'When a boy at school my attention was directed to my

<sup>1</sup> Researches on Color-Blindness. By George Wilson, M. D. Edinburgh. 1855.

<sup>2</sup> "A most amusing account was given by Babbage of the incidents attending the presentation of Dalton at court. Firstly, he was a Quaker, and would not wear the sword, which is an indispensable appendage of ordinary court dress. Secondly, the robe of a doctor of civil law was known to be objectionable on account of its color,—scarlet,—one forbidden to Quakers. Luckily, it was recollected that Dalton was afflicted with the peculiar color-blindness which bears his name, and that as the cherries and the leaves of a cherry-tree were to him of the same color the scarlet gown would present to him no extraordinary appearance. So perfect, indeed, was the color-blindness that this most modest and simple of men, whose only pleasures were a pipe and a game of bowls, after having received the doctor's gown at Oxford, actually wore it for several days in happy unconsciousness of the effect he produced in the streets."—Scientific London, 1874, page 38.



want of knowledge of color by finding I could not see what my father called the *bright-red* berries of the holly. When other children easily found out the trees which were loaded with ripe cherries, I never could, till I came so near the tree as to detect the form of the fruit. The discovery of this defect in vision distressed my father exceedingly, and he endeavored to cultivate in me a knowledge of color by giving me lessons in painting, making colored charts for me of the prismatic and other colors, wishing to believe that the defect resulted from want of education in color, not from a visual defect. I destroyed many a painting of flowers, etc., by putting on wrong colors, as blues for purples, green for some kinds of red, and yellow for others. I still remember the surprise he exhibited when he found I could not detect a red cloak spread over a hedge, across a narrow field; hedge and cloak appeared to me the same exact hue, and they do so to this day.

"Dr. T., aged twenty-seven, early became aware of his inability to distinguish colors, and has cultivated painting in the hope of curing or diminishing his defect, but without any success. He has himself favored me with an account of his case, but as he very strongly realizes the want of a common language between himself and those who have not his defect in distinguishing colors, he regards this account as hopelessly imperfect.

"It is quite certain that dyers, painters, weavers, clothiers, and the members of other callings much conversant with color are not unfrequently color-blind. I myself have very recently been offered any 'reasonable fee' if I would cure a worthy working tailor of almost total inability to distinguish colors.

"These cases may suffice to illustrate the permanency of this affection of vision, but they are not singular. Among my color-blind acquaintances there are probably none who would not sacrifice a great deal to see perfectly; and nearly all have endeavored to cure themselves of their visual idiosyncrasy, but not one reports a cure, and the best educated and most observant among them are the most decided in declaring that they have given up all hopes of amendment.

"It is difficult to convince many that this conclusion is a just one. Those whose own sense of color is delicate, and who are led by taste or profession to live much among colored objects, are slow to believe that any eye can be so peculiar in its endowments as to make the blunders which the color-blind do, even in reference to what they call a 'staring' red or green. Such colorists insist that carelessness, indifference, or improper education lies at the bottom of the mistakes which the 'supposed' color-blind make, and profess themselves willing to undertake their cure, of which, however, they record no case.

"When we find an engraver, who for the greater part of his life has been gazing all day at paintings, purchasing a red window curtain for a green one; a tailor, whose eye has been for hours daily fixed on cloths of very varied colors, matching green tape with scarlet linen, at the risk of losing his situation; an experienced field geologist compelled, when surveying a red-sandstone district, to take a companion with him to point out where grass ends and sandstone begins; and a teacher of chemistry evading, as much as possible, the questions of his pupils concerning the colors of bodies, we cannot doubt that after education has done all that it can towards developing the sense of color in the color-blind, they remain as helplessly prone to make their characteristic blunders as before. A crowning example of this has recently presented itself to me. In the establishment of a painter and glass-stainer, who is an obstinate disbeliever in the existence of color-blindness, my attention was recently directed by his fellow-workmen to a youth who had been set to repaint the devices on the shafts of a sheaf of arrows. These devices, consisting of alternate circles of red and green, had not been effaced, but only dulled; yet the painter executed his task by painting all the *red* rings *green*, and all the *green* rings *red*. The case was remarkable for the direct reversal of the colors in question, and this by one who held them before him to compare, both on his palette and on the arrows. Yet the party who committed the mistake was an excellent draughtsman, much esteemed by his master, and surrounded at his daily work with splendid specimens of stained glass. This mistake which he made soon ceased to be a solitary one; for his fellow-workmen, having since its occurrence put him to the test, found him uncertain in his judgment of many colors, and on examining him I found him commit the characteristic errors of the color-blind. Here, then, was the possessor of an educated color-blind eye making such mistakes as no normal-eyed person, however uneducated his power of vision might be, could or would make. Education, then, can do nothing towards curing congenital color-blindness, nor in truth can anything else."

Dr. Goubert, in 1867, says as to treatment of color-blindness: <sup>1</sup> “I have here no more consoling words or fruitful resources to present. Whatever the symptoms characterizing this peculiar imperfection, it belongs to that large number which the divine art of *Æsculapius* is powerless to cure, perhaps even to mitigate. All ophthalmic surgeons are unanimous on this point.”

Professor Holmgren, of the University of Upsala, Sweden, has very thoroughly discussed Dr. Favre's publications, and he is in position both theoretically and practically to test attempts to cure color-blindness by exercise with colors, etc. After citing from his pamphlets, he says: <sup>2</sup> “This does not materially change the point of view we have adopted and indicated. It will be admitted that to positively prove the curability of color-blindness it is indispensable to establish the fact, first, that the treatment was applied to persons who were proven color-blind; and secondly, that these same persons after treatment had perfectly normal color vision, or were not deficient in it. Dr. Favre's *brochure* does not give us sufficient proofs of this. In short, without denying, on theoretical or practical grounds, the curability of color-blindness, we must hold that as yet no positive proof of it has been furnished.

“We, on our part, have not yet seen the result of a systematic exercise in learning colors pursued months or years; but the observations we have made on the exercise of the color-blind and their general effects may not be without interest, and throw some light on the importance of such exercise. We have said that the color-blind railroad employés learn to distinguish the flag signals in common use, and rarely make a mistake when examined especially on this point. Does this result depend on the training, and in what way? The color-blind who are not railroad employés can answer this. If we show them the ordinary flags (green and red) one after the other, they will nearly always name one or the other wrongly, and often both, and even sometimes frankly admit they do not know the true names of the colors. But if we show them the two flags at the same time, and ask which is green and which red, they at once see a difference; and, having fixed the name in their memory, they no longer make mistakes, but will tell the true name of the colors, even when shown one flag after the other. From this we see how the color-blind railroad employé has learned to distinguish the flags.

“But, after all, what have they learned, and what, strictly speaking, have they gained, by such recognitions? If we ask a color-blind person who is intelligent and honest, and who has no interest in concealing his fault, he will openly admit that he has no idea of the color itself, but that he notices a sensible difference in that the green flag is darker

<sup>1</sup> De l'Achromatopsie ou Cécité des Couleurs. Dr. E. Goubert. Paris. 1867.

<sup>2</sup> De la Cécité des Couleurs. F. Holmgren. Stockholm. 1877.



to his eye than the red. At the next trial he will make the same mistake if the first flag is shown him alone, and will be as surely correct if the two are shown together. A railroad employé who daily sees the two flags will not in general make this mistake when the test is repeated; we readily understand why. The color-blind has learned to apply the names, guiding himself by the difference in the intensity of the light. But he still continues destitute of any idea of color. He is always color-blind, and has simply learned an artifice.

“If Dr. Favre’s claim that the railroad and marine *personnel* should be trained and exercised in telling colors is formally entertained, it can but lead to admitting the color-blind to positions in question; and, moreover, in the assurance that their congenital defect can be cured by the performance of their duty, the necessary training is looked out for. Such advice, we think, is positively dangerous, as it only deceives the authorities into the idea that the color-blind can cause no accident; whilst in reality their defect is where it was before, and, moreover, from this training becomes more difficult, I may say impossible, to discover, if a faulty method of testing is employed. In this point of view the training, far from averting, only increases the danger.”

I think the necessity of discussing as far as I have what at first sight seemed perhaps only a medical opinion has now been made apparent. The very mistake Dr. Favre has been led into has also deceived railroad officials, who here and there have tested an employé suspected of color-blindness with the flags or lanterns used on their individual roads. It requires considerable argument and positive proof to convince a railroad superintendent that one of his men whom he has had cause to suspect, and has seemingly thoroughly tested, is after all color-blind. It is very difficult for him not to believe his employé has learned, or can be made to learn, to see colors as they appear to a normal eye. He, however, will be convinced against his reason, when the color-blind man is in his presence subjected to a proper scientific test applied by a competent specialist.

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## RECENT PROGRESS IN THE THEORY AND PRACTICE OF MEDICINE.<sup>1</sup>

BY A. L. MASON, M. D.

*Report on the Prevailing Diseases in Paris.*—M. Ernest Besnier,<sup>2</sup> in a report to the Société médicale des Hôpitaux at Paris, after stating that the atmospheric conditions during the last three months of 1877 were not such as to exercise any unusual influence which was appreciable upon the prevailing diseases, although the temperature was

<sup>1</sup> Concluded from page 374.

<sup>2</sup> Rapport de la Commission des Maladies regnantes. *L'Union médicale*, Nos. 14, 15, 16, and 21, 1878.

somewhat higher than the average for that period during many preceding years, finds that the mortality at the hospitals for the final quarter and for the whole year 1877 was greater than in any one of the last five years. There were nearly two thousand more deaths in 1877 than in 1872. In spite of the mild weather the mortality from respiratory affections, especially from pneumonia, was greater than usual.

The writer regards diphtheria, like other epidemic diseases, as subject to fixed laws of evolution. Comparing the number of deaths with the number of persons attacked for several years, he finds that the mortality reaches its maximum in winter and its minimum in summer. The conclusion is that, as typhoid fever is a malady which is most prevalent during the late summer and the autumn, so diphtheria is essentially a disease of the winter. For example, in 1877, at Paris, the number of deaths among diphtheritic patients, having been eighty-three per cent. in the first quarter and seventy-nine per cent. in the second, fell to fifty four per cent. in the third and rose again to seventy-three per cent. in the fourth.

The author thinks that the recognition of this normal, habitual, and regular history of the disease, from year to year, eliminates much of the uncertainty with which many physicians have regarded it, and that they have been led to confuse the observations made in an exceptional outbreak, or in a single institution, with the real march of the malady. From a therapeutic point of view M. Besnier considers "errors of interpretation," in a disease from which the mortality varies regularly according to the season, as the cause of the numerous "therapeutical illusions," which are made evident by the failure of remedies that at other times have been supposed to give brilliant results.

The epidemic of 1877 is described as the most important in the number and severity of the cases which has ever been known in Paris. The invasion has not been sudden, and for more than ten years M. Besnier has made careful observations. In 1872, the year after the war, there were 1135 deaths from diphtheria; in 1873, 1164; in 1874, 1008; in 1875, 1328; in 1876, 1571; and in 1877, 2393. The epidemic has extended throughout the whole city with varying degrees of severity, the mortality ranging from 2.3 per one thousand inhabitants in the fifteenth arrondissement (Vaugirard) to 0.51 per one thousand in the ninth (Opera). This disparity was not found to be due to altitude, since it was remarked that three of the higher districts, Chaumont, Ménilmontant, and Montmartre, which ranked seventeenth, nineteenth, and fifteenth (in a scale of twenty) in mortality from typhoid fever, were second, third, and seventh in respect to the fatality from diphtheria. The action of density of population did not seem to be manifest, but in the opinion of the author indigence was the chief factor, as he had shown also by statistics in regard to cholera, variola, etc.



This was thought to be especially striking in diphtheria, since the poorest quarters usually contain most children, who are the chief victims of that disease.

In the various children's hospitals, for the last quarter of 1877, there were two hundred and forty-nine cases of diphtheria with one hundred and eighty-three deaths, a mortality of seventy-three per cent., against a death-rate of seventy-one per cent. out of a total of nine hundred and nineteen cases treated in the same months of the previous seven years. In three institutions fifty-four cases are mentioned in which tracheotomy was performed; rather more than one fourth of the number lived. At the Hôpital Sainte Eugénie, out of seventy cases thirty-one required this operation, which would indicate a greater frequency of laryngeal complications than usual, but as no distinction is made between croup and diphtheria the statistics may be open to criticism.

The author shows that typhoid fever in 1877 followed its usual course, as indicated by the annexed table, compiled from the hospital returns:—

	Cases.	Deaths.	
1st quarter,	806	130	= 16.12 per cent.
2d " "	287	53	= 18.46 " "
3d " "	488	128	= 26.02 " "
4th " "	634	131	= 20.62 " "

The year 1876, which was marked by a very severe epidemic, gives 3158 cases and 759 deaths, a mortality of 20.4 per cent. For the past ten years, excluding 1870–71 (war, and siege of Paris), of 15,936 cases of typhoid fever treated in the hospitals 21.31 per cent. were fatal.

*Diphtheria in Fayetteville, North Carolina, and Vicinity.*—Dr. W. C. McDuffie<sup>1</sup> says that in the past twenty-five years diphtheria has prevailed as an epidemic but twice in the neighborhood of Fayetteville, once in 1862, and again in 1876, on both occasions choosing the summer for its invasion, reaching its height by October 1st and disappearing about the middle of November. The type of the disease was mild, the ratio of deaths never reaching 20 per cent., and the author advances the hypothesis that this comparative mildness may be due to the surrounding malarial influence, saying that the history of the disease "shows a greater virulence of symptoms in sections free from miasma than obtains where malarial disease exists." He considers croup and diphtheria as essentially distinct, the adventitious membrane being the only point of resemblance, and states that the sanitary regulations and surroundings were good both in town and country, and that a lack of hygienic precautions was in no instance the cause of the spread of the disease.

*Fifteen Cases of Tracheotomy in Diphtheritic Croup.*—Dr. R. G.

<sup>1</sup> North Carolina Medical Journal, February, 1878.

Bogue,<sup>1</sup> surgeon to Cook County Hospital, reports at length fifteen cases of tracheotomy in diphtheria, with six successful results. There was no impairment of the voice in any of the cases. The ages of the patients were from two to ten years. There was no recovery under three. The tube was worn in the six successful cases forty-four, twenty-one, five, sixteen, one hundred and twenty, and eleven days respectively, the delay being occasioned in the longest-mentioned period (one hundred and twenty days) by paralysis of adjacent parts. In the fatal cases death occurred in from ten hours to sixteen days, in most instances within forty-eight hours. The writer regards the "so-called membranous croup" and "diphtheritic croup," as seen in Chicago, as the same disease, — diphtheria, — the essential difference being only in the place where the disease or membrane first locates itself. If in the pharynx, it is usually seen before the larynx is affected, but if seated primarily in the larynx the swelling and deposit of membrane may destroy life in a few hours. Early operation, with the use of an anæsthetic to allay spasm and avoid fright, is advised, and a moist, warm atmosphere, sustaining diet, and such local or general treatment as the circumstances may demand.

*The Treatment of Typhoid Fever by Cold Baths.* — Dr. Julliard<sup>2</sup> gives the results of his observations in fifty cases of typhoid fever treated by Dr. Chavanne in one of the hospital wards at Lyons, which had been arranged with special bathing facilities for fever patients. Owing to this fact the physicians of the Hôtel Dieu sent their worst cases there for treatment. Thirty-six of these fifty cases were treated systematically with cold baths after Brand's method, and the author allows him full credit for calling the attention of the profession to what was practically a new mode of dealing with fevers, the first results of which in Lyons were published by M. Glénard in 1874 in a series of fifty-two cases, all of which recovered. But the investigations of Schulze at Heidelberg, and of others, having clearly shown that there are contraindications to as well as indications for cold bathing, which were not appreciated by Brand, mention is made of the conditions under which Dr. Chavanne regards this treatment as desirable: first, a continuous high temperature without remissions, and second, the ataxic state. Cold baths are not deemed necessary for patients whose temperature may reach a very high point, provided the remissions are regular and decided, the patient under these circumstances being compared to an aeronaut who ascends to heights incompatible with life, returning at intervals to breathe in the regions below. It is considered as proved that cold baths do not hasten the evolution of the intestinal lesions, and that their only incontestable effect is to induce a more remittent type of

<sup>1</sup> Chicago Medical Journal and Examiner, February, 1878.

<sup>2</sup> Lyon Médical, Nos. 6, 7, and 9, 1878.



fever. The ordinary bronchial and pulmonary complications are not thought to be contra-indications, and it is regarded as essential that the bathing should begin at the earliest possible period after the development of those types of fever which are mentioned above as demanding it, a very difficult point to discriminate in the earlier stages. Although the symptoms which depend upon the high febrile action, — headache, delirium, somnolence, etc., — are often relieved with surprising rapidity, the final result is not always favorable, and, in illustration of this, three cases are instanced in which the primary effect of the baths was all that could be wished, but death ensued at a later period.

The charge that this method of treatment is apt to cause (1) furuncular eruptions, (2) intestinal hæmorrhage, (3) neuralgias, (4) severe coughing fits, and (5) aggravation of preëxisting respiratory affections was not substantiated so far as to show that these complications or sequels could be attributed to the baths, although of the thirty-six cases there were slight eruptions in three, intestinal hæmorrhage in two, — one of which was fatal, — and a few cases of fleeting neuralgia. Of eleven patients suffering from chronic or preëxisting pulmonary difficulties, in one only did the progress of the disease (phthisis at the left apex, in the commencing stage) appear to be hastened by the cold baths. In this connection it is stated that Griesinger, Jaccoud, and other authors have observed that pulmonary phthisis often develops with unusual rapidity under the influence of an attack of typhoid fever.

Twenty-three of the fifty cases reported were between ten and twenty years of age, fifteen between twenty and twenty-five, eight between twenty-five and thirty, three between thirty and forty, and one was fifty-three years old. Headache and epistaxis, which in one instance required the tampon, were observed in almost all the cases. Gurgling and pain in the right iliac fossa were usual symptoms, though not always present, and a marked degree of meteorism was noticed in but thirteen cases, becoming extreme in three instances which presented grave complications, malignant icterus, suppurative parotitis and peritonitis. Diarrhœa supervened in all cases at some period, with the characteristic stools, though it was not always until the end of the first or the second week. Rose spots appeared in two thirds of the patients, but they were absent in some of the worst cases.

Six of the fifty patients died, a mortality of 12 per cent. Of the thirty-six cases treated with cold baths by Brand's method, six were fatal, or 16.6 per cent., which the author considers gratifying in view of the fact that those cases only were subjected to this treatment which presented either a high continuous febrile action or a marked tendency to ataxia at the outset. Moreover nineteen of these cases were sent by other physicians from the neighboring wards on account of the intensity of the symptoms; therefore it may be granted that, under circumstances

more unfavorable than the average, these figures represent a rate of mortality not in excess of that noted by other observers as occurring in epidemics of moderate severity.

In the thirty recoveries with the use of cold baths the duration of the fever was in ten cases between fourteen and twenty days, in eleven between twenty and twenty-five days, in seven between twenty-five and thirty days and in two patients, thirty-one and thirty-three days respectively. Convalescence was in all cases rapid, and accidents were extremely rare. Relapses did not occur, though in a few cases there was from slight causes a rise in the temperature lasting three or four days.

*The Lancet*<sup>1</sup> says that 886 deaths from typhoid fever were registered in London in 1877, 105 more than in 1876. In 455 completed cases at the different fever hospitals the average rate of mortality was more than 20 per cent., the highest being 24 per cent. and the lowest 17.4 per cent. Assuming that 20 per cent. of the whole number of cases in London during the year were fatal, it may be calculated that 4430 persons had enteric fever.

*The Use of Ergot in Typhoid Fever.* — M. Siredey<sup>2</sup> gives an account of a young man of twenty years who recovered from a very bad attack of fever after the use of ergot. The patient entered the Hôpital Lariboisière on the tenth or twelfth day of the disease. The tongue was very dry and brown, the gums were covered with sordes, speech was difficult, and the ideas were confused. At night there was constant delirium, with subsultus and other nervous phenomena, great pain in the back of the neck, opisthotonos at times, and symptoms like meningitis. The next day the abdomen was retracted, and signs of collapse seemed to portend early death. M. Siredey, bearing in mind the success attained by M. Duboué (of Pau) in the treatment of ataxo-dynamic cases by ergot, prescribed two grammes of this drug to be taken during the day. On the following morning there was a considerable modification of the grave symptoms. The muscular twitchings had ceased, the abdomen was less drawn in, and the general condition was improved. The ergot was continued for three days, after which the indications of danger entirely disappeared and the fever ran its course with moderate intensity.

M. Duboué recommends ergot in typhoid fever for reasons deduced from its physiological action, and in one of his works<sup>3</sup> cites seven cases in which it was employed. Two were in the early stages and presented all the characteristic symptoms of the malady, but they got well so soon that it was thought that an error in diagnosis was possible. In three others ergot was not used until after all other medicinal resources

<sup>1</sup> February 23, 1878.

<sup>2</sup> *Journal de Médecine et de Chirurgie pratiques*, February, 1878.

<sup>3</sup> *De quelques Principes fondamentaux de la Thérapeutique.*



had been exhausted and the patients had reached an almost hopeless state. But they all recovered after taking from a gramme and a half to three grammes of ergot daily for about two weeks. Another, who presented grave ataxic symptoms from the outset, with delirium, trismus, carphologia, and intermittent pulse, took ergot for twelve days, the disease assuming a milder form and recovery following. Finally, a patient with typhoid fever, who was three and a half months pregnant, was treated with ergot for fifteen days, and got well without miscarriage, although she took a daily dose of a gramme and a half or two grammes of the drug.

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## PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

O. W. DOE, M. D., SECRETARY.

DECEMBER 17, 1877. *Tumor of the Cerebellum.* — DR. WEBBER read a paper upon this subject. (Reserved for publication.)

DR. ELLIS asked the reader if he considered the pain to be caused by pressure upon the nervous structure of the brain.

DR. WEBBER replied that he thought it dependent upon pressure on the tentorium and the meninges; the former binds down the cerebellum so closely that even a slight increase in size exerts considerable pressure, and, the membranes containing nerves, the pressure is very painful. He said that when the cerebellum is affected, patients seem to exhaust language in trying to find expressions sufficiently strong to describe the intensity of the headache.

DR. FISHER asked if hallucinations of sight are as marked in affections of the cerebellum as when other portions of the brain are affected.

DR. WEBBER answered that he had only once seen hallucinations mentioned as a symptom in tumor of the cerebellum, and then it was not stated whether they related to sight especially. Intellectual and emotional disturbances he thought were more particularly noticed when the cerebral hemispheres were affected.

DR. STEVENS mentioned the case of a lady twenty-three years of age, who died in September last, and at the autopsy a tumor the size of an English walnut was found occupying the floor of the fourth ventricle. A year before death she sought medical advice on account of severe headache and impaired vision. The diagnosis of retinitis was made at the Eye and Ear Infirmary by Drs. Shaw and Hay. Four weeks afterwards her sight had become much worse, and two months later she was totally blind. At this time she became pregnant, and suffered severely from headache and vomiting. Occasionally there were convulsions, and in walking she would often fall backwards. There was no deafness at any time. A week before death she was delivered of a living child, no one in the room knowing she was in labor until the cries of the child attracted their attention. Intense headache, with almost constant screaming for four days before death, and loss of control of the sphincters followed.

DR. FITZ described the tumor as being a vascular sarcoma. There was also

an inflammatory condition of the meninges. The lateral ventricles were fully distended with serum. The uterus presented nothing abnormal. No disease was found in any other organ.

*Arsenical Poisoning.* — DR. WOOD showed a stomach twenty-two days old, which still presented the marks of inflammation, and the effect of arsenic in preserving the tissue, although the specimen had been kept in a heated room. The patient, a female aged seventeen, took the poison with suicidal intent, and died seven hours after the first symptoms manifested themselves, and probably about eleven hours after taking the poison. Four hours before death she was in severe pain, attended with diarrhœa. About a pint of blood, with very little food, and a large quantity of undissolved arsenious acid crystals, held together by mucus, were found in the stomach. When the organ was first opened, there was slight ulceration seen near the cardiac extremity. There was also some redness of the upper part of the small intestine. The cells of the liver were cloudy, and cleared up somewhat after the addition of acetic acid, showing commencing fatty degeneration.

JANUARY 7, 1878. *Auto-Inoculation.* — DR. WIGGLESWORTH read a paper upon auto-inoculation, especially of vegetable parasites of the skin. (Reserved for publication.)

DR. GARLAND asked the reader if it was now an established fact that a secondary true chancre can be produced from a primary chancre upon the same person by inoculation, saying that in Zeissl's ward in Vienna he saw a patient who presented a primary hard chancre on the penis, a copper-colored eruption on the body, and two secondary ulcers, — one on each arm, — which were the result of inoculation of pus from the primary sore. Zeissl said that he could not assert that the secondary ulcers were true chancres without testing them by inoculating their pus upon a healthy person.

DR. WIGGLESWORTH replied that pus obtained by the mechanical irritation of the induration, constituting the initial manifestation of syphilis, may be inoculated upon the bearer of such primary lesion as upon a healthy person, as may any other pus, and the result may be an ulceration, which as in the case mentioned, on account of the constitutional affection already existing, may subsequently take on induration. He doubted if pus thus obtained from a primary lesion would produce induration and constitutional infection upon a healthy subject unless blood was also mixed with the pus.

DR. BOWDITCH inquired why the so-called inoculation of syphilis had lost its reputation in Austria.

DR. WIGGLESWORTH responded that it was because the theory was based upon error, and the desired results had not been obtained. The idea of syphilization originated over twenty years ago, at a time when the distinction was not made between constitutionally infecting lesions and those merely local in their action. The inoculation of real syphilitic virus had been but very rarely performed, especially since the time of Waller, of Prague. The inoculation of the merely locally irritating matter from soft sores had been pushed to extremes, especially in Norway under Professor Boeck, and during two separate visits made to Christiania Dr. Wigglesworth had seen several examples of patients literally



covered with ulcerations thus produced. The result of these inoculations is a merely temporary local immunity from possibility of further inoculation of this sort, namely, with the locally irritating material, the wearied skin refusing longer to respond to the stimulus of inoculation. After a period of rest it will again respond, and more local sores may be produced upon the unfortunate victim. Much physical suffering, reduced general health, and permanent disfigurement are the only results of syphilization. A permanent or even temporary immunity from syphilis, that is, constitutional disease, is of course not acquired. Dr. Wigglesworth had not found a single adherent of the theory among Professor Boeck's own fellow-physicians and assistants.

Syphilization, so-called, has, then, nothing to do with syphilis, and as a prophylactic of this disease possesses the same value as cantharidal blistering or tartar-emetic pustulation, while as treatment it simply adds a small amount to the great evil the patient is already enduring. True syphilitic poison cannot be introduced into a human system already affected, and even could this happen it would only be adding to the evil already existing. The experiments of Hebra and Sigmund show practically and definitely that as a cure of syphilis syphilization has no value.

The process has not a feature in common with vaccination. Inoculation with pus, produced by the mechanical irritation of a syphilitic lesion, primary or otherwise, is not necessarily syphilitic inoculation. A vast number of questions in regard to syphilis can never be satisfactorily settled until both the subjective and objective factors of the problem can be completely isolated, that is, until the pure virus can be inoculated upon healthy individuals. This can be done by placing such criminals (under sentence of death) as desire the alternative at the disposal of investigators for purposes of investigation. There is no suffering involved, the lease of life is prolonged, and subsequent personal suffering, or possibility of communication of the disease to others is obviated by the final execution of the death penalty. Even were a subsequent pardon granted, lapse of time would prevent communicability.

DR. BOWDITCH asked whether ordinary warts, as met with upon the hands, can be regarded as contagious, saying that he had recently seen a teacher whose hands were covered with warts, and who had never been troubled with them until she had children in her class similarly affected.

DR. WIGGLESWORTH answered that one person could not communicate the affection to another by direct contact. The process consisted anatomically of an hypertrophy of the papillæ of the corium, upon which lie thickened layers of the horny epidermis. The disease must therefore require time for its development, which would involve as cause the prolonged contact of some irritating material, as, for example, the secretions causing the so-called venereal warts. The causes of warts in general are, however, not well known, and no credence can be given to popular beliefs. The treatment is excision, though they may disappear as they come, without treatment, and upon the observed fact of their disappearance we may place more trust than upon the theories regarding their origin. Thus honest and truthful people have stated that as a "curious coincidence" their warts have disappeared soon after their having been "charmed" by some one, "just by way of a joke." Should this be in-

deed true, it would be a peculiar instance of the force of the imagination upon the growth of tissues.

*Malignant Disease of the Spine.* — DR. HILDRETH reported the following case: Mrs. N., about forty years of age, married eleven years, the mother of one child, healthy, of good family history, was first seen March 16, 1872, when the following history was obtained. Two years before she had a nodule removed from the breast, from which she made a good recovery. About three months ago she began to have pain in the back, but had supposed it rheumatism, and used domestic remedies accordingly, yet the pain had steadily increased. She walked a little stooping, generally with a cane, and had the appearance of one suffering from lumbago. There was no tenderness from pressure over the spinous processes of the vertebræ.

From that time till May 17th, the pain, with inability to walk, steadily increased. Tenderness was developed over the spine. Violent pain was experienced along the course of the anterior crural nerve and the great sciatic, which was generally worse at night, and required large doses of opiates to relieve. From about this time paralysis of the bladder and lower bowel began, which continued till the time of her death, June 6th. The latter part of her illness she appeared like one suffering from fracture of the spine in the pain she experienced when any attempt was made to move her.

The autopsy showed a destructive process which had gone so far as to destroy almost wholly the bodies of the last dorsal and lumbar vertebræ. There were cancerous nodules over the chest and abdomen, and in the cicatrix where the nodule was taken from the breast. The spine was not removed and subjected to examination, but it was carefully examined *in situ*, and no doubt was expressed by the physicians present that the disease of the bodies of the vertebræ was of the same nature as that of the breast which was removed about two years before. None of the other organs of the body showed the presence of malignant disease.

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### THE PHYSIOLOGY OF MIND.<sup>1</sup>

THIS enlarged edition, in a new form, of a well-known and valuable work will be welcomed by a large circle both of professional and non-professional readers. Its subject matter being of such vital importance from a social point of view as well as to the individual, no intelligent person should fail to read it. The work is a complete and scientific treatise, containing the results of the research of the last ten years, — a decade which will always be memorable for a rapid advance of knowledge in this department. Much space which was originally devoted to a defense of the physiological method in the study of mind is now available for this new material, in consequence of the general adoption of that method. It is almost as much a treatise on the evolution as on the physiology of mind, so thoroughly does the author present his subject from that stand-point. While showing much independence of thought and

<sup>1</sup> *The Physiology of Mind.* Being the First Part of a Third Edition, revised, enlarged, and in great part rewritten, of the *Physiology and Pathology of Mind.* By HENRY MAUDSLEY, M. D.



originality in treatment, he is also much indebted to Spencer for his arguments and to Darwin among many others for his facts. The peculiar merit of the work, we think, grows out of the writer's thorough acquaintance with all the phases of mental disease and social and moral degeneration, in which are seen a reversal of the processes of evolution and a complete analysis of the normal operations of the mind.

We can pass rapidly over the first three chapters, which treat of the importance of the physiological method and of the evolution of the nervous apparatus in animals and man. In the reflex functions of the spinal cord are found the basis and type of all the higher nervous and mental functions. Chapter IV., on the Sensory Centres and Sensation, is largely rewritten. The usual independence and automatic character of the sensori-motor functions is insisted on, and very fully and convincingly shown by arguments drawn from the operations of instinct in animals. Dr. Maudsley thinks there is no evidence of intelligence or volition in the sensori-motor acts, and that consciousness is not a necessary factor. He considers such operations of the organic machine as purely physical as those of a steam-engine. He shows throughout the work a special animosity against consciousness, derived from the false testimony it has borne in support of various systems of sham philosophy, which it is in part his object to demolish.

Chapter V., on the Supreme Cerebral Centres and Ideation, includes the results of recent research upon the functions of the convolutions in animals. Dr. Maudsley thinks that we are warranted in concluding from these experiments that there are in the cortical layers of the hemispheres motor areas which have definite connections with the coördinating centres in the subordinate motor ganglia. Although the sensori-motor ganglia may suffice for all forms of movement after the removal of the hemispheres, when these are present the impressions of some of the sensori-motor acts are carried centripetally to the cortical centres, where they are, as it were, echoed or repeated, and the *feeling* of their innervation takes place. He traces the growth of simple ideas into those more complex and abstract, in animals, infants, and savages, and shows the operation of idea on movements, voluntary and involuntary, conscious and unconscious, on the sensory ganglia, on the functions of nutrition and secretion, and on other ideas in reflection and deliberation. He treats at length of the association of ideas as determined by the inherited nature and the special life experience of the individual. He thinks the power of mind over the succession of its states is extremely limited, and that to make states of consciousness synonymous with states of mind is almost as unwarranted as to assert that all bodily acts are conscious.

Perhaps the chapter on the Emotions is of the most immediate value to the medical reader, since they are based in the organic life. They betray their physical nature in the name itself. They act more powerfully on the organism than ideas, because they represent a more violent internal movement, or *commotion*, as the old term was, in the nervous element. Emotion is the equivalent in a higher kind of tissue of the self-conservative impulse, immanent in all living matter, by which it rejects what is hurtful and attracts what is nutritive and favorable to growth. This reaction, according to the character of the stimulus, is as natural and necessary to any organic element as the re-

action of two chemical compounds. When this impulse or appetite of nerve element is manifest in consciousness, we know it as desire, craving, instinct, or appetite.

The desire for food and drink and the sexual instinct are the strongest motives of action, and in the latter case we can watch the evolution of a new appetite when at the age of puberty new organs begin to exert their physiological influence on the brain. Every disturbance of the *cænæsthesis*, or emotional equilibrium, leaves its trace in the convolutions, and the character of each emotion is determined by the nature of the external stimulus or the internal state, as well as by the condition, original or acquired, of the nerve element. When we consider particular desires we find always a conception of the thing desired, each idea having its special feeling, unless so indifferent as not to excite a consciousness of its emotional character. Emotions express themselves in muscular movements, in nutrition and secretion, and in ideational activity. The study of temperament is interesting in this connection, and also that of physiognomy. The emotional character of a man is as plainly told in his outward aspect as is the direction of the prevailing wind by the branches of a tree.

The moral sense, which is the highest and latest acquisition of the race, Maudsley traces to the instinct of self-propagation. In the act to which this instinct impels, although mostly selfish, he finds the root of the altruistic feeling. It is a social act in that it requires the coöperation of two individuals, and the love of offspring develops into a regard for and a recognition of the rights of family, tribe, and state. The standard of international morality is yet very low. Spencer derives the moral feeling directly from the instinct of self-preservation, of which the other instinct would seem to be an outgrowth, the individual striving to live, at least, in his offspring. The moral sense is in its formation, according to our author, a matter of organic evolution, and its destruction a matter of organic dissolution.

We have no space to present even an outline of our author's forcible argument against the metaphysical conception of will as an entity of autocratic power, acting from above and outside the cerebral organization. There is no more an abstract will than there is an abstract consciousness. Each particular mental act has its own quality in these respects, according to its organic nature, and the sum of these acts makes the individual mind, with *its* peculiarities. Will, like every other natural force, has its cause. While admitting the utility of the doctrine of free will for the ruder ages and races of mankind, he thinks the time has come for a better understanding of it.

The domain of will is strictly limited in many ways. For instance, volition differs in quantity and quality with the preceding train of associated ideas. The design in any particular volition is the result of a gradually effected mental organization, a physical necessity not independent of nor transcending experience. Volition has no power over the movements essential to life, and cannot effect the so-called voluntary movements until they have been acquired by a slow and labored practice. It cannot then control the individual muscles, or will the means, but only the event or final action. We seem to have power to will arbitrarily certain indifferent actions, as to touch some one of the squares on a chess-board, but, as Jonathan Edwards asserts, even in this act the will is and must be directed by some preponderating or determining



motive. We touch the square the eye happens to light on, usually. How much less free is the will in its choice among matters of moment!

Maudsley asserts that the will has no power over the formation of ideas or their association. It cannot call up or dismiss a particular train of thought except by the most indirect methods. Volition is, in fact, a result and not a cause. It is the name given to the final or residual impulse of a train of associated ideas. There are as many centres of volitional reaction as there are of ideas. The consciousness is particularly excited at the inception and close of the ideational process. What begins as desire comes out after such reactions as the particular cerebral organization requires under the new name of volition. In brief, we will what under all the circumstances we desire, and being specially conscious of the desire we think our will is free because we do what we wish to do. A falling stone, if conscious of a desire to fall, would think it fell of its own volition.

The final chapters, on the Motor Centres and Actuation, and on Memory and Imagination, we can mention only by name. We have been unable to give more than the merest outline of what from beginning to end is a sustained and powerful presentation of the physiology of mind in accordance with the latest scientific research. We have also been obliged to omit all the facts adduced in support of its line of argument. The author leaves a few questions unanswered which will constantly recur to the most simple-minded reader. For instance, whence comes the fundamental property of organic matter by which it chooses the good and rejects the hurtful? And admitting the limitations of consciousness, what is its nature, such as it is, and *who* is it that is conscious?

T. W. F.

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## THE SEWERAGE OF BOSTON.

THE two objections to the proposed main-drainage scheme for Boston have been disposed of in a thoroughly satisfactory manner.

It has never been supposed by any gentlemen who have carefully investigated the matter that the new intercepting sewer would, of itself, affect the level of the ground-water, for it was to be built with such impervious walls as to forbid its acting as a drain for the surrounding soil. The sewerage commission, however, thought that it would so act indirectly, by preventing the accumulation of sewage in the old sewers at high tide, and that it would thereby allow a more complete soakage of soil-water through their walls, — to such a degree, in fact, as to drain the whole territory of the Back Bay and reduce the level of the ground-water somewhat, although not below grade 5 (that is, five feet above mean low-water mark). In some few places that would involve exposure of the tops of the piles on which the houses are built, and would cause them to rot to such an extent as to require new foundations in a certain number of cases. But it should be said that no houses would have been endangered, on that supposition, where the requirements of the inspectors of buildings had been carried out, and where the piles were cut off as low as grade 5. Some of the houses early built are placed on piles whose tops are as high as grade 6, 7, or even 8; and the extension of the filled area has gradually brought the surface of the ground-water near by to continually lowering levels.

In such cases there will be some rotting of the foundation piles, independently of any action of the sewers; and the houses will inevitably begin to totter, sooner or later, unless this evil is corrected. An evil, of course, it is; but the expense of "underpinning" a house need not exceed four thousand dollars, and no one certainly should complain of such an outlay provided he thereby got a drier soil upon which he and his children might live, and gained a constant discharge to a safe distance of the filth which is now putrefying within a stone's throw of his chambers.

The experiments, lately made by Mr. Eliot C. Clarke, by pumping the sewage of the Berkeley Street sewer for a period of two months, during that portion of the day when the rising of the tide obstructs its continuous flow, have shown conclusively that the level of the soil-water is not at all likely to be affected by the new system, at least not more than a few inches. These experiments were conducted at a time of the year when the ground-water is at its highest, and when it would be most easily affected by the sewers if at all. After a heavy rainfall the soil-water falls in a few days very much more than by two months' pumping from the sewer. The sewerage commission have frankly acknowledged that they were in error on this point, and the question may now be considered as settled.

The second objection to the new sewerage system, that the sewage discharged at Moon Island will cause obstructions and offensive deposits in our harbor, has proved to be not well grounded. The only shadow of support for such a theory has been the statement that ten times the amount of the Boston sewage, discharged a dozen miles below London, into a river less than half a mile wide, and at a point thirty miles from the sea, had caused serious obstructions in the Thames. It is impossible to say that eight hundred tons of solid matter a day have not added at all to the sources from which the shifting banks have been formed near the mouth of the Thames. But the best engineers have decided that there has been no increase in the yearly deposit since the construction of the great sewers, and even the late Dr. Letheby, formerly chemist to the very board that is now making the complaints to which we have referred, has shown that there is no reason for supposing that the sewage of London is in the least obstructing the river or adding to the banks in it. There are serious objections to emptying one hundred and twenty million gallons of filth into a main ship channel, which is also a great thoroughfare, and for that reason the sewer outlet in Boston was placed at Moon Island rather than at a place in some ways preferable, namely, off Castle Island or at the extreme point of South Boston. For the same reason the engineers of the Metropolitan Board of Works in London will undoubtedly, ere long, be compelled to cleanse their sewage before casting it into the river.

As we have said, the only serious objections to the new sewerage system for Boston are disposed of; the new works are placed under the charge of our city engineer, who is one of the most accomplished men of his profession, now on his way from Europe, where his varied experiences have not led him to modify at all his general plans for Boston. We may be assured that the work will begin at once with true American speed, and that our city will soon be put on the list of those places which have sewerage as good as modern science can furnish and the circumstances of the case will admit.



The difficulties in the way of rendering our present sewers what they should be are very great. With all the energy, knowledge, and ability of our faithful superintendent of sewers, he has the evils of a bad system to contend against, which has made our sewers the miserable patchwork of which the best that can be said is that they are out of sight, so as not to offend all of our senses at once. That they are better than the underground passages of Cincinnati and Philadelphia, which tumble in of their own weight, and not so bad as some of the old, extraordinarily devised filth-traps of New York, we do not deny, but that many of them are far below the standard which we may reasonably demand is an extremely mild statement of the case in Boston. It is only thirty-five years ago that the first scientific sewerage of any city was begun. Up to that time, in many places, and even until now in some American cities, an education as an engineer was not thought necessary to qualify a man, in the eyes of city councils, for undertaking one of the most difficult problems in sanitary engineering. Indeed, under the recent *régime* at the City Hall, from which we so fortunately escaped, an election of superintendent of sewers nearly resulted in the choice of a man who had no scientific education as an engineer. The result is familiar to us all: temporizing measures are adopted all over the city; gross defects in the sewers, although familiar to the sewer department, are not rectified until interested citizens happen to find them out, when a strong pressure sometimes accomplishes, finally, what should have been done by the officers whose duty it is to ascertain and to correct such evils at once. Instead of a system of sewerage we have disjointed sewers, some bad, some good, none the best that modern knowledge and skill can furnish.

It is easy to see what should be done in the matter. Our city engineer has all the scientific knowledge which we can require; his familiarity with the modern works for the best sanitation of cities has just been supplemented by a visit to the leading places of Europe, where he has also had the opportunity of meeting the first engineers of France, England, and Germany; the intercepting sewerage system is placed directly under his charge, and the only way of securing a thoroughly satisfactory administration of our water-supply and sewerage departments is to place all under one head. Any other solution of the question must end in more or less marked failure to secure all the benefits from a plan, the importance of which is considered so great that Boston is about to expend four million dollars in its accomplishment. If a board of public works is ever established here, the plan which we propose would probably be an essential feature in it, and need in no way interfere with its early appointment.

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#### MEDICAL NOTES.

— Dr. William B. Morris died at his house in Charlestown on Saturday, March 16th, after an illness of several months. He was one of the sons of Commodore Morris, so distinguished in the history of the navy, who died in Washington in 1856, where his widow still survives at an advanced age. Dr. Morris was fifty-two years old, and had spent the greater part of his professional life in Charlestown. He was a graduate of Brown University in 1846,

and received his medical education at Harvard, afterwards passing some time in study at Paris and other European schools. In the practice of his profession he met with marked success, and his independent character and noble qualities of mind and heart, combined with sound judgment, technical skill, and varied experience, gained for him the confidence and affection of his patients to an extent which was as rare as it was enviable. With many if not most of them his place can never be filled, and among his professional associates and wide circle of attached friends sorrow for his untimely end will be deep and lasting.

— In the New York *Medical Record* for March 2d, Dr. J. G. Richardson describes an original and interesting method of counting the blood corpuscles.

— The College of Physicians of Philadelphia has abolished its fee bill. The latter has practically for a long time been a dead letter.

— By private correspondence we learn that the new system of education in the medical department of the University of Pennsylvania has not only paid all guaranteed salaries, but has provided ample means for the laboratories, and created a surplus of \$2300.

— Various journals allude to MM. Bouchut and Dubrisay's enumeration of the blood corpuscles in diphtheria. In a communication to the Paris Academy of Science, these gentlemen stated that, having counted the corpuscles by Hayem's process, they found that in diphtheritic angina the number of white corpuscles is augmented, while the red corpuscles are diminished in number. The increase of white corpuscles varies directly with the gravity of the disease.

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## BOSTON CITY HOSPITAL.

### SURGICAL CASES OF DR. GEO. W. GAY.

*Traumatic Stricture of Urethra ; Perineal Section ; Relief.* — H. H., laborer, aged twenty-two years, entered the hospital September 4, 1877, unable to pass any urine by the penis, it all coming from a fistula in the perinæum. A bank of earth had fallen upon this patient three months before, and he was told that his pelvis was fractured. At all events he had complete retention at the time, and the surgeon was obliged to open the perinæum to relieve the bladder, as no instrument could be passed through the urethra.

When he entered the hospital the perineal wound had contracted so much that micturition was difficult and painful. This was easily remedied for the time being by passing an elastic catheter every day or two through it into the bladder. No instrument could be passed through the urethra.

The question to be decided in this case was whether an effort should be made to reëstablish a communication between the two portions of the urethra, or whether the patient should be taught to keep the perineal opening dilated, and pass his urine in that way during the rest of his life. Mr. Cock reported cases several years ago, in one of which a man had passed his water through a perineal fistula for twenty years with little inconvenience.

Knowing the obstinate tendency of traumatic strictures to contraction in spite of the best directed efforts to keep them dilated, we did not urge an oper-



ation upon this patient, but the matter having been fully explained to him he was allowed to choose his treatment. He decided to try an operation.

September 21st. The patient having been placed under ether the urethra was opened in front of the stricture by cutting down upon a director. The canal was entirely obliterated for the space of an inch, so we were obliged to connect the two portions by an incision extending as nearly as possible in the direction of the normal urethra.

An elastic catheter (No. 10) was fastened in the bladder and changed every third day. This instrument was worn continuously for nearly four months, when the perineal wound was nearly closed, scarcely anything coming out of it during micturition. He was discharged a few weeks later, able to pass a good stream of water, and told that probably the stricture would require occasional dilatation as long as he lived.

*Stricture of Urethra; Retention relieved for Four Days by aspirating the Bladder; Internal Urethrotomy.* — P. M., aged twenty-eight years, has been more or less troubled with a stricture for thirteen years. It resulted from a gonorrhœa contracted at the age of fourteen. He has had several attacks of retention, which have heretofore been readily relieved with a catheter.

He entered the hospital August 22, 1877, having passed no water for twenty-four hours. The bladder was distended to the umbilicus, and he was suffering acutely. The patient was given a dose of opium, placed in a hot bath, and gentle efforts were made for a few moments to pass a catheter. These all failing to relieve him the bladder was punctured above the pubes, and emptied with the aspirator. Two leeches were applied to the perinæum, and followed by a poultice. These measures afforded great relief to the tenderness in that region. Aspiration of the bladder was performed nine times in four days.

On the 26th the patient was etherized, and on being examined with acorn-pointed bougies was found to have two strictures, one about two inches from the meatus, the other in the bulbous portion of the urethra. Both constrictions were freely divided with a urethrotome, and an elastic catheter was fastened in the bladder for two days. To guard against "urethral fever" ten grains of quinine were given twice a day.

The patient was discharged in nine days able to pass his urine freely and easily. A month later a No. 10 steel sound could be readily introduced into the bladder, and, with the exception of a cystitis from which he had suffered for a long time, he was very comfortable, and able to do as much work as usual. He was told to have his strictures dilated as often as necessary to maintain a good stream of water.

*Fracture of Ribs; Abscess at Point of Fracture; Aspiration; Recovery.* — C. M., about twenty-eight years of age, entered the hospital August 1, 1877. Three weeks before he had fallen overboard and received a fracture of the seventh and eighth ribs near the angle on the left side. He had rubbed some liniment on the chest, but had had no other treatment. No history of pneumonia or pleurisy.

At the point of fracture was a broad, fluctuating swelling, from which two ounces of thick, yellowish pus were drawn with the aspirator. A poultice was applied. The next day he had a chill. Three days later he began to cough

up matter resembling that drawn from the abscess. This was attended with fever and malaise. Six days after the first aspiration the abscess was punctured again in the same manner, and two ounces more of bloody pus were removed. This operation was soon followed by bloody expectoration, chills, sweats, etc. The temperature never went above 100° F. A week after the last tapping the symptoms began to subside, and the patient was discharged August 25th, nearly well.

This case is of interest as showing an occasional result of not treating a fracture of the ribs properly. This patient neglected his injury; the ends of the broken bones were constantly rubbing upon each other, and irritating the soft parts in the vicinity until suppuration was set up, which, while we were considering the plan of making an external opening, found a vent through the bronchi. Soon after this took place the symptoms began to subside, and the patient got well.

#### COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending March 16, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean of ten Years, '68-77.
New York.	1,093,171	483	22.97	24.32	28.71
Philadelphia.	876,118	300	17.80	18.80	21.54
Brooklyn.	549,438	178	16.85	21.51	25.50
Chicago.	460,000	144	16.28	17.83	22.39
Boston.	375,476	132	18.28	20.10	24.34
Providence.	100,000	29	15.08	18.81	19.20
Lowell.	55,798	20	18.64	19.09	22.50
Worcester.	54,937	28	26.51	14.07	22.30
Cambridge.	53,547	18	17.47	18.69	20.83
Fall River.	53,207	17	16.62	21.35	24.96
Lynn.	35,528	7	10.25	20.42	19.67
Springfield.	33,981	6	9.19	16.04	19.77
Salem.	27,140	15	28.74	20.38	21.15

SUFFOLK DISTRICT MEDICAL SOCIETY. — A special meeting will be held at the rooms, 36 Temple Place, on Saturday evening, March 30th, at seven and a half o'clock. The following papers and cases will be read :—

Dr. A. N. Blodgett, Carcinoma of the Conjunctiva, a Rare Form of Eye Disease. Clinical History by Dr. H. Derby.

Dr. D. Hunt, Myopia.

Dr. Chadwick will show a new Examining Table.

Dr. J. B. Ayer, Case of Cerebral Syphilis, with Persistent Hallucinations of Hearing.

Dr. William Read, Case of Tetanus. Diphtheria. Knot in the Umbilical Cord.

Dr. J. W. Keene, Embolism of Left Vertebral Artery. Specimen.

Tea, etc., at 9 o'clock.

BOOKS AND PAMPHLETS RECEIVED. — "What am I?" Valedictory Address to the Graduates of the Medical Department, University of Louisville. J. M. Bodine, M. D., Professor of Anatomy and Operative Surgery of the Eye, and Dean of the Faculty. 1878.

On the Source of Muscular Power. By Austin Flint, Jr., M. D. New York: D. Appleton & Co. 1878. (For sale by A. Williams & Co.)









# THE BOSTON MEDICAL AND SURGICAL JOURNAL.

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## CASES OF PLASTIC SURGERY.<sup>1</sup>

BY CHARLES B. PORTER, M. D.,

*Surgeon of the Massachusetts General Hospital, Demonstrator of Anatomy and Instructor in Surgery, Harvard University.*

CASE I. Emma L., aged six years, entered the Massachusetts General Hospital May 25, 1875. When four years old, while playing near a stove, her clothes took fire, and she was severely burned about the neck and chest, a cicatrix resulting which drew her head downwards to such an extent that her chin was only about an inch from the sternum. A broad band of cicatricial skin, of dense, unyielding structure, occupied the front of the neck, extending downwards from the lower border of the under jaw and as far back as the lobe of the left ear to the top of the sternum, left clavicle, and acromion. The prominence of the chin and profile outline of the neck were both obliterated. The lips could not be closed except by depressing the head till the chin nearly rested on the sternum, and the lower jaw was misshapen from the constant traction. There was constant dribbling of saliva. Behind the web extending from the ear to the left shoulder there was a deep pocket which concealed a considerable portion of sound skin. The cicatrix was quite healed, but was constantly breaking down in spots from the friction of the clothes. The whole face as high as the eyes had a drawn look, very much marring the expression. The patient was anæmic, poorly nourished, and was put upon "extra diet" and tonics for a week before the operation.

*Operation, under ether.* The cicatrix was divided carefully through its middle from the median line backwards to the edge of the web, the various bands divided as they sprang into prominence, till the head could be elevated to its normal position. A large flap was then taken from over the left shoulder blade, the apex extending down to the inferior border of the same, the pedicle being at the anterior border of the trapezius, as that point furnished the largest supply of blood-vessels to the skin from the posterior scapula and transverse cervical arteries. The flap was turned into position and secured by fine wire sutures. A few

<sup>1</sup> Read before the Boston Society for Medical Observation.

small vessels required ligation. Hot-water dressings were applied. It was evident, next day, that a part of the flap would slough, and ultimately about half of it was lost. With that exception the case progressed well, and by skin grafting and granulation the wound closed in six months. At the end of that time a second operation was performed for the adjustment of the pedicle, which resulted well, and the patient was discharged a month later, wearing an apparatus to support the head in its new position and to prevent further contraction. The photographs,<sup>1</sup> taken before and after the operation, show the amount of improvement. The web from ear to shoulder is gone, the mouth can be kept closed in a comfortable position, the chin elevated, and the drawn expression of the face has entirely disappeared. There is no drooling of saliva.

CASE II. Mary R., aged fifteen. When three years old her clothes caught fire, and she was seriously burned on both arms, chest, and especially on the left side of the neck, where the cicatrix has so contracted as to draw down the chin nearly to the sternum. The lower lip is everted and the inferior maxilla deformed, the front teeth projecting directly forwards and nearly horizontal to the body of the jaw. The skin of the face is drawn downwards to such an extent that the left lower eyelid does not cover the lower half of the eye. There is incessant dribbling of saliva, and the lips cannot be closed by any effort.

*First Operation.* The patient was etherized with difficulty, having a feeble pulse and bad respiration. An incision was made from the left ear to beyond the middle line in front. The cicatricial tissue was carefully dissected through as it became prominent, band by band, opening up a wound four by six inches in extent. When the wound was ready for the transplantation of the flap the patient's pulse was so feeble, though very little blood had been lost, that it was deemed unsafe to go on with the operation. She was put to bed, with heaters and stimulant enemata, and the foot of the bed was raised. Four hours later, having rallied, and her pulse having improved, she was again etherized, and a large flap, covering nearly the whole scapular region and extending below the inferior angle, was dissected up and fixed in the wound with fine wire sutures. The pedicle was formed at the anterior border of the trapezius, for the same reasons as stated in the previous case. The large wound from which the flap was taken was closed by drawing the edges together with deep and superficial silk sutures. The patient was placed on the right side, with hot-water compresses over the flaps, ordered to be changed every ten minutes. She rallied well under stimulant enemata. A considerable portion of the end of the flap sloughed, and in all about one third was lost. The remaining portion united with

<sup>1</sup> In the illustrations accompanying this paper the two upper ones are before operations, and the two lower after.









the adjacent sound skin and relieved the tension on the left side of the neck.

*Second Operation*, eleven weeks after the first, to remedy the deformity of the lip, which would be difficult to describe, but can be readily understood on inspection of the patient, whom I will show after the reading of this paper.

*Third Operation*, six weeks from the second. The sloughing of the extremity of the first flap left a considerable granulating surface under the chin, and the cicatricial tissue to the right of the median line still remained. The patient was etherized with difficulty, as usual. A careful and almost bloodless dissection was made, relieving the tense bands under the chin and front part of the neck. A large flap was then taken from between the breasts and over the sternum, extending down to the junction of the latter with the ensiform cartilage, the pedicle being over the clavicular portion of the pectoralis major at the end of the clavicle. It was turned up and fastened into place by silver sutures, and the wound from which the flap was taken closed. None of the transplanted skin sloughed, and four weeks later the wounds were healed, except a small granulating surface the size of a silver quarter. There was now an almost continuous band of sound skin running round the neck like a collar, but not of sufficient width to relieve the tension entirely.

*Fourth Operation*, four weeks after third. Several bands of cicatricial tissue which remained low down on the neck near the clavicle were divided, and an open wound about three inches long was made. This was filled by taking a flap from the left axilla and upper and outer portion of the left breast, and turning it up below and somewhat between the two other flaps, thereby propping them up and overcoming the tension, so as to allow an erect position of the head at the same time with closure of the mouth. Silver sutures were used to fasten in the transplanted flap, and the edges of the wound in axilla were drawn together. Adhesive plaster was placed around the body to support the edges of the wound in the axilla. Hot-water dressings were applied to the wound so as to keep the flap warm. No sloughing. Wounds healed well, and the patient was discharged six months after entrance, to return in a few months for a final operation.

*Fifth Operation*. The patient entered the hospital again seven months after discharge. The chin was drawn down by a V-shaped cicatrix, having its apex upwards, with soft and yielding skin on its sides. The V-shaped cicatrix just mentioned was first dissected out, so as to divide all the cicatricial tissue. On the side of the neck, just back of this and under the ear, there was a loose fold of skin formed by a wrinkle in the flap which was turned up from the scapular region in a previous operation. The skin was dissected up from the first incision

backwards to the fold mentioned, which was split so as to be unfolded. This allowed the flap to be brought forward to cover the wound made by removing the cicatrix. The edges were adjusted by fine silver sutures. A compress wet in warm carbolized water was applied, to be changed every hour, and the parts were kept warm by being covered with cotton batting. After the operation there was no perceptible pulse at the wrist, but it soon improved after an enema of brandy. No sloughing occurred, and the patient was discharged from the hospital one month from the date of last entrance and sixteen months from the first operation. The projecting teeth had been extracted and some artificial ones substituted. She was able to hold the head erect and turn it very considerably to the right. She could keep her mouth closed, and there was no dribbling of saliva. There was not the slightest granulating surface left of all the large wounds made.

CASE III. Mary D., aged forty-eight, three months previous to admission to hospital was burned, slight cicatrices resulting on each elbow, wrist, leg, and breast. There was one on the left side of the face and neck, extending from behind the left ear forwards to just across the median line, which drew down the chin and jaw, and depressed the left side of the mouth slightly. The cicatrices were tender, and ulcerated in small patches. Previous to her entrance into the hospital she had been treated by the "stretching method."

*Operation under Ether.* The tension of the neck was overcome by the thorough removal of the cicatrix from between the body of the jaw above and the sternum and clavicle below. A large flap was taken from the region of the right pectorals and breast, with the pedicle to the outside and just above the sterno-clavicular articulation. It was placed in position and retained by fine wire (silver) sutures along the superior and left borders, the inferior being left free. The subcutaneous fat was so thick that the flap looked like an enormous double chin, but as the vessels are so largely contained in this tissue it was deemed unsafe to pare it off. The whole was covered with hot compresses and cotton batting. The arms were pinioned to the sides to avoid possible traction on the pedicle. The large wound over the front of chest was closed by sliding with silk sutures. The whole flap did well, and the record of the case a month later states that there was complete union throughout the superior and posterior borders of the flap. The lower border was never stitched to skin, and the whole new skin is much reduced in thickness. On the upper edge of the pedicle are two puckers of skin formed partly by old cicatrices and partly by the turning about of the transplanted flap.

*Second Operation.* The pedicle was cut off, cicatricial lines and puckers were removed, and the newly detached end of flap united to the surrounding healthy skin, and the whole secured by fine wire sut-









ures. Slight hæmorrhage from small vessels controlled by torsion and hot water. Damp compresses covered with cotton batting applied to flap. Recovered slowly from ether.

A few minute sloughs followed an attack of erysipelas, but beyond that she had an uninterrupted recovery. The flap gradually grew thinner, and assumed the character of the contiguous skin. She was discharged, well, four months after admission.

CASE IV. Walter C., aged twenty-nine. Cicatrix of face. Twelve years ago he had abscesses over the angles of both jaws, which from their history and the appearance of the cicatrices seem to have been lupoid in character. The principal scar is over the left masseter region, and is disfiguring from the fact that no hair grows from it as from the surrounding parts. It is three and a quarter inches long and one and a half inches wide.

*Operation with Ether.* An oval incision with pointed ends was made to surround the whole cicatrix, which was carefully dissected out entire. By sliding the edges of the wound they were brought together in a straight line, and held by fine wire sutures very near each other. Manual pressure was applied over the wound for two consecutive hours to prevent hæmorrhage under the skin. At the end of that time the edges were glued together and to the tissues beneath, and all oozing had ceased. The whole wound healed without a drop of pus, and the patient was discharged four days after the operation, with a straight line for a scar instead of a cicatrix one and a half by three and a quarter inches broad.

As to suggestions concerning operations of a similar nature : —

- (1.) Dissect out, if possible, all cicatricial tissue.
- (2.) The pedicles should be arranged so as to get the largest supply of arterial blood possible.
- (3.) Flaps thick with adipose tissue do well and the fat is absorbed, and the flap finally assumes the character of the surrounding skin.
- (4.) Compression of the parts operated upon prevents a collection of blood underneath, and hastens the union of the flap to the parts beneath.

## LECTURES.

## ON THE PHYSIOLOGY OF THE SPINAL CORD.

DELIVERED AT THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK,  
BY PROF. JOHN C. DALTON.

[REPORTED BY P. BRYNBERG PORTER, M. D.]

## II.

## THE TRANSMISSION OF MOTOR AND SENSITIVE IMPULSES IN THE SPINAL CORD AND NERVES.

GENTLEMEN,—Owing to the industry and patience of two of my assistants, Mr. Fisher and Mr. Weed, I can now present to you a fresh dissection of the dog's spinal cord *in situ*, and from this you can get a much better idea of its gross appearances than from any verbal description. The membranes have been removed, and you can recognize at a glance the cervical and lumbar enlargements and various other anatomical features of the cord which I described yesterday. As the dorsal surface of the cord is now exposed, you distinguish the posterior roots of the spinal nerves as they are successively given off from the cord. I have also here some transverse sections of the human spinal cord arranged for microscopical examination, some of which have been prepared by Dr. Delafield and some by Dr. Arnold. They are altogether the best which I have seen anywhere, and in all of them, I believe, you can see the deep origin of the spinal nerve fibres, those of the anterior roots being especially well shown.

Having gone through with these anatomical considerations, let us now take up the subject of the transmission of motor and sensory impressions through the spinal cord and its nerves. The cord is, first and foremost, an organ of nervous communication between the brain on the one hand and the muscles and integument of the trunk and limbs on the other. We desire to ascertain also, if possible, which of its portions serve for the communication of voluntary motion, and which for that of sensation. This can be done, as we shall see in a few moments. But first I would explain that in the experimental determination of the functions of any portion of the nervous system we habitually employ two different methods.

The first is as follows: after having exposed the part to be investigated, we apply to it some form of artificial stimulus and observe the effect. Two results may follow in such an experiment. First, the stimulus may cause a muscular contraction. Whenever motion is produced in this way by the application of a stimulus to any part of the nervous system, the part so reacting is said to be "excitable." This term, therefore, expresses the quality by which a nerve, on being excited, causes motion in the corresponding muscles. Secondly, the



stimulation of a nerve may produce, not motion, but sensation. This sensation will be a painful one if the stimulus be excessive; tactile or slight if the stimulus be moderate in degree. The part, in this case, is said to be "sensitive." These terms, excitable and sensitive, of course have no reference to the condition of the animal itself, but only indicate the special physiological properties of separate parts of the nervous system. They are very convenient terms to use in treating of this subject, and it will be well for us to bear their meaning always in mind.

The other method of experiment, which at first might seem of comparatively little service and yet in reality is the more useful of the two, consists in dividing or destroying that part of the nervous system which we are to investigate, and noting the results which follow. Suppose, for instance, that we have a spinal nerve going to a certain muscle, and that we divide that nerve by a transverse section. We shall find that by this operation we have abolished the power of voluntary motion in the muscle, or, in other words, have destroyed the function of the nerve. On the other hand, if the nerve be one of sensation, its division will abolish the power of sensibility in the parts to which it is distributed. In these cases, while either motion or sensation is done away with in a particular part of the body, there has been, nevertheless, no injury done to the nervous centres. It is only the nerve fibres exterior to them which have been cut off. The results obtained in these instances correspond with those produced by the application of a stimulus. When the stimulus is applied to a nerve of motion, motion is excited, and when it is applied to a sensitive nerve the result is a sensation. Furthermore, when a nerve of motion is divided the power of motion is destroyed, and when a nerve of sensation is divided sensibility is abolished. The two methods of experiment here simply corroborate each other. Nevertheless, the method by division or destruction of a part is, in many cases, more conclusive than that of its artificial stimulation. Suppose, for instance, that we have uncovered some deep-seated part of the nervous system, such as the anterior root of a spinal nerve or the anterior column of the cord, and that the application of a stimulus causes convulsive motion. This certainly shows that the anterior root or the anterior column is capable of exciting motion, but it does not prove it to be the normal and exclusive channel for the passage of the motor impulse. Again, if we irritate some other part of the nervous system, and thus produce a sensation, it shows, indeed, that part to be sensitive, but by no means proves it to be the normal channel for tactile sensations. On the whole, therefore, the destruction or division of a nerve is the most definite means for determining its functions. If you cut off a nerve and find that as a result there is loss of voluntary motion in the region to which it was distributed, you may feel assured that the nerve was the real

channel for motor impulses ; and the same is true in regard to the channels for sensation. The negative result in these cases is more conclusive than the positive one afforded by stimulation.

But there is one source of error in this connection which we should always remember. If we destroy or divide any part of the nervous system, and find a loss of motion or sensation as the result, we must not conclude *immediately* that the part was the natural channel for motion or sensation, as the case may be ; because the effect produced may possibly be a temporary one, due to the shock of the operation. If so, after a short period the interrupted function may be restored, notwithstanding the section of the nerve tissues. But if the part in question be really the channel of nervous communication, its function can never be restored until the injury has been repaired by some restorative process. Certain parts, therefore, of the nervous system may be for a time paralyzed by sympathy, on account of injury inflicted upon other neighboring parts ; and this fact must be borne in mind in estimating the results of any experimental operation.

We will now go on to examine particularly the transmission of motor and sensitive impulses in the spinal cord and its nerves, beginning with the functions of the nerves and the nerve roots. I need not remind you of their anatomical characteristics, as we have so recently dwelt upon them, but will proceed at once to inquire, What is the result of applying to them an artificial stimulus ? The effects thus produced are simple and definite. If any irritant, such as the point of a steel needle or a slight galvanic discharge, be made to act upon the anterior root of a spinal nerve, a muscular contraction is at once excited. There are several important points to be noticed in regard to the character of this muscular action.

In the first place, it is local. It is confined to a particular circumscribed district, namely, the part to which the motor fibres of that particular nerve are distributed.

Secondly, it is instantaneous and transitory. The muscular contraction follows immediately the application of the stimulus, and as instantly ceases upon its withdrawal. It is repeated with mechanical precision as often as the nerve root is stimulated. It is like the striking of a door-bell when the knob is pulled at the street entrance ; and it has every characteristic of an involuntary, unconscious action, produced directly by the nervous connections of the part.

Thirdly, it is unaccompanied, as a rule, by sensation. When a sensation is produced, it is very slight in comparison with the muscular contraction, and depends on causes which are too complicated to mention at this time.

Next, What is the effect of *dividing* an anterior nerve root ? Directly the opposite of the preceding, namely, a local paralysis of voluntary mo-



tion, confined to that part of the muscular system to which the nerve is distributed. No other part is affected. Thus we see that in this instance the two methods of experiment correspond with and explain each other. When stimulus is applied to the nerve root a local convulsion results, and when the nerve root is divided there is a local paralysis. Furthermore, we find that if the nerve root be divided and a stimulus be applied to it beyond the point where it has been severed, the same muscular contraction is produced as before, showing that none of the physiological properties of either the muscle or the nerve have been destroyed by the operation.

On the other hand, if we leave the anterior nerve root undisturbed and apply a stimulus to the posterior root, sensation is at once excited, and this sensation is limited to those parts of the integument to which the nerve is distributed. When motion is also excited, as sometimes happens, this is obviously due to a cause acting through the nervous centre. Furthermore, if the posterior root be divided, it is followed by anæsthesia in the corresponding parts. The anterior roots of the spinal nerves are therefore excitable and not sensitive, while the posterior roots are sensitive and not excitable.

If, instead of dividing the anterior root of one nerve only, we divide those of all the nerves in some particular portion of the spinal cord, as, for instance, the lumbar region, there will be paralysis of motion in the entire limb to which these nerves are supplied, sensation remaining undisturbed; while, on the contrary, sensation will be destroyed in the same part if we divide the corresponding posterior nerve roots. It is not necessary to go on multiplying these examples, since the facts are equally true for the nerves given off from every part of the spinal cord. We see, then, that the anterior roots are motor and the posterior sensitive, absolutely and exclusively. The former are the normal channels for motion, and the latter for sensation, and these functions are never interchangeable.

Here is a diagram representing the double origin of a spinal nerve, and the union of its two roots into a single trunk. The terminal branches of the nerve are finally distributed to the sensitive integument on the one hand and the voluntary muscles on the other. Every spinal nerve has, therefore, two sets of terminations, and hence we find in our books of descriptive anatomy the smaller branches distinguished, as either muscular or cutaneous nerves. Beyond the junction of the two roots of a spinal nerve its motor and sensitive fibres become closely intermingled, yet their functions remain distinct. In this part of its course the nerve is, therefore, both motor and sensitive, and so continues until approaching its termination, where it again separates into motor fibres destined for the muscles, and sensitive fibres destined for the integument. To recapitulate: the motor and sensitive fibres are (1) distinct

at their origin, (2) in the middle portion of the nerve they are intermingled, and (3) at their terminations they again become distinct. A nerve containing both motor and sensitive fibres is called a *mixed nerve*, and is capable of performing both functions. There are some nerves in the body exclusively sensitive, and others exclusively motor; but the spinal nerves, without exception, are all of the mixed variety, so that when a stimulus is applied to the trunk of any one of them, both sensation and motion are the result. For the same reason, a division or destruction of the nerve trunk causes both paralysis and anæsthesia in the parts to which it is distributed. These are facts which are well attested by plain experimental results, and about which there is no doubt whatever.

We now come to consider the functions of the cord itself, as a medium for the transmission of motor and sensitive impulses. But here we find at once a great difference in the amount and precision of our knowledge, as compared with what we know of the spinal nerves. If we regard the spinal cord as an entire organ, our knowledge of it is definite enough. As a whole, it is the exclusive channel of both sensation and voluntary motion between the brain and the parts below, and it certainly contains all the elements necessary for their transmission. If it be divided transversely, there is instantaneous loss of conscious sensation and of voluntary motion in all parts of the body below the level of the injury. It is therefore the only means for the transmission of these nervous impulses to and from the body and limbs. So far everything is plain and simple, but we cannot remain satisfied with this amount of knowledge

The spinal cord is not homogeneous. If it were, we should probably find no difficulty in understanding its functions. But it is made up of both gray and white matter; and we wish to know, if possible, what particular parts of the cord are concerned in the production of special nervous phenomena. This has been ascertained with more or less precision in regard to some points, while there is as yet no certainty whatever in regard to others. To begin with, What parts of the spinal cord are sensitive to artificial stimulus, and what parts are excitable? First, in regard to sensibility: the posterior columns are found to be always sensitive, but this result is accompanied by many modifications, and all parts of these columns are not equally sensitive. Thus, their superficial portions are decidedly more sensitive than their deep-seated portions. One would naturally anticipate, when the point of a needle is inserted into such a sensitive column, that the deeper it entered the more acute would be the sensation. But just the opposite of this is true. Another fact, which has been frequently noticed, and which is agreed upon by all observers, is that the inner or median portions of the posterior columns have comparatively little sensibility, while the immediate neighborhood of the posterior nerve roots is by far the most sensitive of all parts of



the column. We naturally inquire, therefore, whether the peculiar sensitiveness in that locality may not belong to the fibres of the posterior nerve roots, rather than to those of the posterior columns themselves. There is a difference of opinion in regard to this point, but it is at all events beyond dispute that the greatest sensibility of the posterior column is located at the emergence of the nerve roots. Furthermore, the surface of the lateral columns in the neighborhood of the posterior nerve roots is also found to be sensitive, while the remaining parts of the same columns are not so. When motion takes place as the result of the application of a stimulus to the posterior columns, it is not directly excited thereby, but is due to a reaction of the general system.

Secondly, if the artificial stimulus be applied to an anterior column, convulsive movement is excited. The most that can be said, however, in regard to this matter is that the anterior columns are, on the whole, excitable; for there is not the same certainty, thus far, about the functions of these parts of the cord as about corresponding parts of the spinal nerves. We may say, therefore, that, as a rule, sensitiveness is characteristic of the posterior, and excitability of the anterior columns of the cord. The lateral columns are excitable in their anterior portions, and more or less sensitive posteriorly, in the vicinity of the origin of the posterior nerve roots. On the other hand, no part of the gray matter of the cord is either sensitive or excitable. When a needle is plunged into any external portion of the cord and then carried farther down into the central gray matter, no difference of effect is produced thereby, either in regard to motion or sensation.

What bearing have these facts upon pathology and practical medicine? The connection is a very important one. We have found that irritation of the posterior nerve roots causes sensation, and of the anterior nerve roots convulsive movement. Now suppose an inflammation of the meninges at the posterior portion of the cord. This irritation will produce painful sensations in remote parts of the body, though there may be no inflammation in those parts themselves to account for it. This is especially true in meningitis, because the irritation there is a superficial one. On the contrary, a meningeal inflammation affecting the anterior portions of the cord and its anterior nerve roots will excite involuntary convulsive movements in corresponding parts of the body or limbs. Practically, however, the inflammation in such cases spreads too rapidly to be confined to either the anterior or the posterior portions of the cord. As a rule, we have both pain and muscular contraction as symptoms of meningitis. Yet in a certain proportion of cases there is, at first, muscular contraction without pain, and in others pain without muscular contraction.

The next question that meets us here is this, Can we determine what are the special channels for voluntary motion in the spinal cord, and

what are those for conscious sensation? This question requires a further set of investigations. From the experiments already described we might be led to suppose that the posterior columns are channels for sensation. But this is not the case. For, if the posterior columns be divided, the animal still retains the power of sensation in all parts of the body below the level of the injury. The posterior columns, though possessed of sensibility themselves, are therefore certainly not the ordinary channels of its transmission from below. Furthermore, if the anterior and lateral columns be divided, sensation will still remain; so that we conclude again that neither the anterior nor the lateral columns are the natural channels for sensation. Sensation must be communicated, therefore, by means of the gray matter of the cord. But this transmission by the gray substance of the cord is not like the simple conducting power of its white tissue. The probability is that the gray matter acts as a temporary *dépôt* for the reception of sensitive impulses brought by the nerve fibres terminating in its substance, and then transmitted by other similar fibres to the brain.

Next we take up the transmission of voluntary motor impulses. Cutting the posterior columns has no effect on this; but if we divide the anterior and lateral columns, voluntary motion is lost below the level of the section. Yet the gray matter is concerned in this act as well as in sensation, for in order that voluntary power may be preserved intact it is found essential that the gray matter of the cord remain uninjured. If the gray matter be destroyed, voluntary motion is either impaired or altogether lost. Therefore, we are forced to conclude that the gray matter is also concerned in transmitting the impulses for voluntary motion. In the dorsal region of the cord the anterior columns are larger in proportion to the lateral columns, and in the cervical region the lateral columns are larger in proportion to the anterior; and the results derived from both physiological experiment and pathological study correspond with this relative size of the two columns in these situations. In the dorsal region an injury to an anterior column produces a greater amount of paralysis than that of a lateral column; while in the cervical region a greater amount of paralysis is caused by injury to the lateral than to the anterior column.

This is all that we know with certainty in regard to the transmission of voluntary motion and conscious sensation by the spinal cord and its nerves. You see that there is a great difference between the mode of transmission of such impulses through the spinal cord and through the nerves; no doubt, because the cord is complex in structure, while the nerves are comparatively simple. An additional reason why nervous transmission is more complicated in the cord is that one part of the cord is liable to react upon another part, and thus sensation or motion may be interfered with or suspended by the reaction of parts not directly concerned in the transmission of the impulse.



The principal points which we have reason thus far to consider established are as follows: —

(1.) That the anterior roots of the spinal nerves are motor; (2) that the posterior roots are sensitive; (3) that the anterior and lateral columns of the cord are mainly motor, but also that the gray matter is essential to the act of voluntary motion; and (4) that while the posterior columns of the cord are themselves sensitive, the transmission of ordinary sensitive impressions takes place in some way through the gray matter.

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## CASES OF STRANGULATED HERNIA.

BY ALEXANDER JACKSON, M. D., PLYMOUTH.

THE following cases of strangulated hernia are presented for publication because they illustrate the emergencies which occasionally occur to the general practitioner in the country, when he is compelled to act quickly and decisively, and to rely upon his own resources. These five cases comprise all the instances of this serious surgical affection that have fallen under the writer's immediate observation during a residence of thirty-four years in Plymouth. The uniform success which attended their treatment was not due to any originality of surgical method, but it depended, apparently, on the following favorable conditions: first, an early cessation of efforts at taxis; second, a timely resort to the knife; third, wholesome hygienic surroundings; and, fourth, a withholding of active medication in the after-treatment.

CASE I. January 11th, Mrs. J. J. F., aged fifty-five years, sent for me on account of a very obstinate and severe cough, which had brought down a previously existing hernia of the right side, and so strongly packed it that she could not return it, as she had been accustomed to do. I found a femoral hernia about the size of half an egg; it was very hard and tender, having been twenty-four hours in that condition. After making all proper efforts to reduce it, but in vain, I sought advice from Dr. T. Gordon, who, after a long trial, was also unsuccessful, and acknowledged the necessity of resorting to the knife. The consent of the patient and her friends having been obtained, she was etherized and placed in position; an incision from the direction of the umbilicus downward and outward over the centre of the tumor was made, and by careful dissection the sac was reached and opened; it was found to contain a fold of intestine, very dark purple in color. The stricture was found at the edge of Poupart's ligament, a few fibres of which I divided. The bowel was then returned. The wound was closed, several sutures being taken, and was covered with compresses secured by bandages, the patient put into bed, and an opiate given. She passed a good night, and was comfortable till the afternoon of the 13th, when

she had a severe chill, followed by nausea, fever, and pain in the abdomen, which became swollen and tender. Opiates, with three or four doses of calomel of five grains each, at intervals of four hours, gave relief. Opiates were continued occasionally during the third, fourth, and fifth days, when a small quantity of castor-oil was given, which acted well, and was followed by an abatement of all the unpleasant symptoms. From that time the progress was good, and at the end of the third week the patient considered herself well; she continued living in this town for two years afterwards, and remained well meanwhile.

CASE II. July, 1863. Mrs. L. S., a lady about sixty years old, had had a direct inguinal hernia of the right side for twelve years. For a long time she had been unable to return it entirely. Recently it had increased in size in consequence of a hard cough, and as it was now becoming painful I was sent for. I found the tumor as large as an ordinary fist; it was hard and tender, and there was some nausea. After repeated attempts at taxis by myself and by my friend Dr. Gordon had failed, I resorted to the operation for opening the sac. A large fold of intestine was found, part of which, covering a space nearly or quite two inches square, was adherent to the sac. Careful dissection succeeded in overcoming the adhesion without injury to the intestine, which, after division of the stricture at the ring, was returned. The wound was closed and secured in the usual way. After a rather slow progress, during excessively hot weather, and without any very serious complications, in about four weeks, Mrs. S. recovered. There was no return of the hernial tumor until four years after, when recovering from a fall the entire length of a flight of stairs she found her former acquaintance in its old place; it gave her no farther trouble during the eight remaining years of her life.

CASE III. May 13, 1865, I was requested by Drs. Gordon and Hubbard of this town to visit Mr. J. A., a strong and vigorous man about thirty-five years old, on account of a large right inguinal hernia that had hitherto resisted all efforts to reduce it. The hernia had existed for several years, but had never before given him serious trouble. A violent cough had caused a larger and more painful development of the tumor than usual; this led him to send for aid. After some farther but ineffectual attempts to return the bowel by taxis had been made, I was requested to operate. The sac was opened and found to contain two large loops of small intestine, each about nine inches in length. After the division of the stricture, which was at the inner ring, I attempted to return the upper loop, and not being able to do so I lifted it up and tried the lower one and succeeded; thereupon the other loop was easily returned. The wound was closed, and, without any serious complication, the patient recovered in about three weeks, and has continued well to the present time.



CASE IV. December 9, 1871, I was asked by Dr. Jones, of Kingston, to visit with him Mrs. E. C., a woman seventy-two years old, short and stout, and weighing over two hundred pounds. She had an umbilical hernia as large as an infant's head; it was hard and tender, and resisted all efforts to reduce it. Symptoms of strangulation becoming manifest Dr. Jones requested me to operate. The patient was etherized, and an incision over the tumor from above downwards was made and continued through the integuments to the sac, which was opened, exposing omentum and a large quantity of small intestine. Just at this point the bedstead broke down, stopping all proceedings till the patient was leveled up again, a matter of no small difficulty with such a weight. The stricture at the umbilicus was divided upwards, when the contents of the sac were with difficulty returned. The patient eventually recovered so as to be about again, and lived two or three years, dying from some other cause.

CASE V. I was called October 10, 1877, to see Mrs. McL., a woman about fifty years of age, whom I found to have a large femoral hernia of the right side; it was recent, and had been brought down that morning by sneezings. It was firmly packed, hard, and tender, and after a long trial I could not reduce it. Dr. Gordon was called to see her with me in the afternoon, and after a lengthy effort agreed with me that no further attempt to return the bowel should be made till the next day. An anodyne was given that night, and an enema was ordered to be administered early the next morning. She slept somewhat during the night, and on our arrival the next day we learned that the enema had produced a large dejection of fæcal matter. We found the hernia as we left it, but more tender, and in such a condition as to forbid any further attempt to reduce it by taxis. The operation with the knife was proposed to her and her family; with their consent at length obtained, she was etherized and placed on the table. I opened the sac, which contained six or eight inches of small intestine. The stricture was found to be at the lower edge of Poupart's ligament, which was divided sufficiently to allow me to return the bowel. The intestine was somewhat dark, but had no bad appearance. The wound was immediately closed with five sutures, and was covered with dry compresses kept in place by bandages. The patient was placed in bed, and nothing was given her except very small quantities of gruel and cold water occasionally. That evening and the next morning the temperature was a little above the normal point; the pulse was 90; there was no pain, nausea, or unpleasant feeling except a little soreness in the vicinity of the wound; the patient slept well. From that time the case progressed favorably. A small, constipated dejection occurred on the fourth day, and a similar one on each succeeding day; after the seventh day the stools increased in quantity and became softer. The stitches

were removed on the fifth day, when the wound was found firmly closed. The appetite returned on the fourth day, when the quantity of liquid food was gradually increased, one tumblerful at a time being added. On the tenth day she had solids. Subsequently her progress was rapid, and on the thirteenth day after the operation she was dressed and on the lounge.

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## RECENT PROGRESS IN URINARY SURGERY.

BY T. E. CURTIS, M. D.

*The Recurrence of Calculus after Lithotrity.* — The operation of lithotrity, says Sir Henry Thompson,<sup>1</sup> is occasionally followed by chronic cystitis, with painful symptoms, and by frequently recurring production of cysto-phosphatic deposits. "There are two points to which it is necessary to pay particular attention in order to avoid the unfortunate result in question: the first is not to apply the crushing operation to any stone of a size beyond that which may be termed strictly moderate, — a term which it is difficult to define, but which is designed as a caution against regarding lithotrity as desirable for calculi of large size; the second is not to delay unnecessarily subsequent repetitions of the sitting when the stone has once been attacked by the lithotrite."

That which has happened to patients who are troubled long after the operation with recurring concretions is without doubt, according to Sir Henry Thompson, a serious injury to the mucous membrane of the bladder, the injury in question being caused, in his opinion, not by the lithotrite, but by the prolonged contact of calculous fragments left lying upon the floor of the bladder. Such being the case, he suggests, as one means of prevention, that the operation of lithotrity be restricted to stones of such a limited size as not to require more than four or five sittings. "With a stone of this size it is probable," says Sir Henry Thompson, "that lithotomy would offer equal, if not better, chances of a successful result."

It seems to the author of this report, however, that the operation of *rapid lithotrity with evacuation*, lately devised by Dr. H. J. Bigelow,<sup>2</sup> is likely to prove more suitable than lithotomy for dealing with cases where the calculus appears to be so large as to yield more débris than the patient's bladder can dispose of in the usual way, and where, on this account, lithotrity, as hitherto practiced, seems an unsafe proceeding. By means of this new method the dangers inherent in the prolonged contact of fragments with the vesical wall are avoided, while, at the same time, the traumatism inflicted appears to be very much less serious than that attending the cutting operation.

<sup>1</sup> The London Lancet, February 2, 1878, page 159.

<sup>2</sup> See the JOURNAL, February 28 and March 7, 1878.



“The next practical question for consideration,” continues Sir Henry Thompson, “is the treatment of the bladder itself when phosphatic deposits and concretions are formed there, and show a tendency to remain, or after expulsion to be again produced. The first condition indisputably necessary to success is that the organ, if incapable of emptying itself, should be artificially emptied by the patient in the easiest manner as often in the twenty-four hours as his comfort demands, and never less than twice a day, however small the quantity left behind. Next, as organs thus affected are by no means always quite emptied, even by the catheter, a small quantity of warm water should be injected once, twice, or thrice daily after catheterism, to wash out the remaining urine, if any such there be, and the phosphatic precipitate which will be certainly found therein. . . . The bladder being thus kept in good sanitary condition, the next consideration is, What agents are to be employed to promote healing action in the diseased mucous membrane? The best are salts of silver, copper, and lead, very weak solutions of which should be used at the first occasion of applying them, watching carefully the result before augmenting their strength, and doing so very gradually. The nitrate of silver should at first not exceed in strength the proportion of one grain to four ounces of distilled water; even one to six ounces is preferable if a patient is more than usually susceptible. It should always be preceded by a cleansing or deodorizing injection, to remove from the surface to be acted upon the muco-pus which is coagulated by the solution of silver, and tends to hinder contact with the agent. This injection is to be employed in the gentle manner directed above for the first application. If very little inconvenience follows, a slightly stronger solution should be used after an interval of two or three days, always avoiding an increase in strength sufficient to produce any severe or long-standing pain. Sulphate of copper should be applied in the same proportion, namely, one grain to six or four ounces of distilled water. An acetate-of-lead solution of the same strength is a valuable agent, to be used daily, or even twice a day, by the patient himself; but the sulphate of copper, like the nitrate of silver, is to be repeated only every alternate or third day, according to results.”

*The Use of Nitrate of Silver in Urethral and Vesical Inflammations.* — In strong contrast with the cautious employment of nitrate of silver advised in the preceding paragraph is the practice recommended by Dr. Mercier,<sup>1</sup> of Paris, long known as an authority in urinary surgery. He restricts the use of this agent to the treatment of chronic inflammations, having almost entirely abandoned the abortive treatment of commencing acute gonorrhœa.

In chronic urethritis, or gleet, the strength of the solution and the mode

<sup>1</sup> Du Traitement des Inflammations des Organes génito-urinaires, etc. Par L. Auguste Mercier. Paris. V. A. Delahaye et Cie. 1877.

of application vary according to the site of the inflammation. When the urethritis is limited to the *pars spongiosa*, Mercier uses his mildest solutions, containing from three to eight grains dissolved in four ounces of distilled water. Three injections are generally made in the ordinary way, at intervals of two or three days.

When the prostatic urethra is affected, this being, according to Mercier, the most frequent seat of chronic urethritis and its favorite lurking place, a different procedure is necessary. Mercier pointed out as long ago as 1856 that the *pars membranosa* of the urethra, surrounded by striated muscular fibres which constitute the voluntary sphincter of the urinary reservoir, is, as it were, a "divide," as regards the flow of injected liquids. Any fluid deposited within the urethra in front of the membranous portion flows out at the meatus; while, on the other hand, any fluid injected beyond this point finds its way invariably into the bladder. Knowledge of these facts enables us to limit the action of topical applications to the diseased portion of the canal. In chronic prostatic urethritis, Mercier generally begins with the solutions described above, but often the amount of nitrate dissolved in four ounces of water is increased up to fifteen grains or more. If the bladder contains urine at the moment when the injection is made, the action of the drug will be limited exactly to the prostatic urethra, the salt being at once decomposed upon entering the bladder.

When the vesical mucous membrane requires to be acted upon, in consequence of the existence of chronic cystitis, with or without phosphatic deposits, Mercier has recourse to still stronger solutions, containing thirty, fifty, or even as much as seventy-five grains of the nitrate in four ounces of water, the bladder being in every case carefully washed out with tepid water before receiving the injection. The effects produced are as follows: First, a burning pain is felt, chiefly in the urethra, which is more sensitive than the bladder, and frequent, urgent calls to pass water are experienced. The pain and discomfort are quite intense for fifteen to thirty minutes, and then diminish gradually, becoming quite tolerable in an hour or so, and ceasing completely by night-fall. During the first night succeeding the injection the good effects begin to be apparent, the irritability of the bladder being already somewhat relieved. On the next day the urine is found to be considerably improved in appearance, being much clearer than before, and having lost its offensive smell; the reaction, if previously alkaline, is now neutral or acid, and the ropy deposit becomes purulent. A single injection rarely suffices for a complete cure, three or four, separated by intervals of three or four days, being generally required.

In the cystitis of females, to whatever cause due, the most frequent origin being childbed, a similar treatment is advised by Mercier. More often than in male subjects, he finds it necessary to bring the solution



into contact with both the urethral and the vesical mucous membranes. In all cases he recommends that the bladder be washed out with warm water a few hours after the medicated injection, in order to remove any clotted masses resulting from the action of the nitrate.

Mr. Christopher Heath,<sup>1</sup> writing upon the treatment of painful micturition in females by dilatation of the urethra, stated that he had treated cases of chronic cystitis, with purulent urine and ulceration of the vesical mucous membrane, by means of strong solutions of nitrate of silver applied with a mop fastened on a wire, through a small vulcanite speculum inserted in the dilated urethra. The solution of nitrate so employed was very strong, containing as much as three drachms to the ounce of water. The effect of this has been in many cases to render the urine acid and clear in twenty-four hours, and the tolerance of the remedy by the bladder was remarkable. Mr. Heath has never seen any harm follow, even where little permanent good was done.

*Digestive Derangements in Urinary Diseases.* — Professor Guyon, now in charge of the Civile ward for urinary surgery at the Necker Hospital in Paris, has lately published an elaborate clinical lecture,<sup>2</sup> in which he calls attention to the varied forms and degrees of dyspepsia observed in patients suffering from diseases of the urinary passages. Accurate knowledge and careful observation of these symptoms are of importance in several ways. The disturbances in question are in some cases so pronounced as to distract attention from the primary disease, the latter being unobserved by either physician or patient; or, if noticed, being looked upon as an accidental and unimportant complication. When correctly understood and referred to their real origin, these digestive derangements have a diagnostic and prognostic significance which entitles them to attentive study. They should also be taken carefully into account by the surgeon in connection with the treatment of the primary disease, being the source of valuable indications, both therapeutical and operative.

The class of cases in which the symptoms described by Guyon occur consists chiefly of those in which chronic partial retention of urine has existed for some time as a consequence of some obstructive disease of the urinary passage. Such are cases of urethral stricture of long standing, and cases of prostatic hypertrophy, in which imperfect evacuation of the bladder takes place. Some of the most pronounced cases of urinary dyspepsia are those where polyuria exists in connection with the partial retention within the bladder, and from this and other considerations Guyon infers that renal disease, more or less latent, is largely concerned in the production of the dyspepsia.

The symptoms in question comprise various forms of digestive de-

<sup>1</sup> See the London Lancet, December 11, 1875, page 858.

<sup>2</sup> Revue mensuelle de Médecine et de Chirurgie. Paris. January and February, 1878.

rangement, from simple chronic dyspepsia to violent "bilious attacks," with vomiting and diarrhœa. They include the following manifestations: loss of appetite, nausea, vomiting, diarrhœa, and constipation. Megrin is also occasionally observed, several cases being cited in which the disappearance and the return of this disorder coincided with the temporary cure and relapse of stricture.

A peculiar appearance of the tongue, which is of a bright red color and extremely dry, is thought by Guyon to be so characteristic of the conditions under which it arises that he calls it the "urinary tongue." The dryness of the mouth and fauces is sometimes such as to engender a condition of "buccal dyspepsia," mastication and deglutition, as well as the taste, being so interfered with that all solid food is persistently refused, whereby the enfeebled condition of the patient is much aggravated. In such cases the mouth is apt to be invaded by thrush.

Vomiting and diarrhœa are often the predominating symptoms, not only in connection with the severe acute attacks constituting "urethral fever," but also independently of any febrile disturbance. Cases of this kind occur with chronic diarrhœa and vomiting, in which the fatal termination is preceded by a falling temperature. In some of these chronic urinary dyspeptics, severe and persistent vomiting is liable to follow operative treatment. In such cases Guyon thinks that surgical intervention ought generally to be deferred until the strength of the patient has been sufficiently restored by a suitable nutritious diet and by tonics.

These dyspeptic derangements are often of long duration. Eventually a condition of "urinary cachexia" is reached, characterized by extreme emaciation and a yellow hue (not icteric) of the skin, together with a total loss of appetite, nausea, vomiting, and, perhaps, chronic diarrhœa. There is a liability to attacks of irregular intermittent fever, which may occur spontaneously or as a sequel to operations. In some of these cases of cachexia, the surgical treatment, bringing about a complete and regular evacuation of the retained urine, will restore the patient to a condition of fair health, especially if cautiously carried out and preceded by a restorative regimen and medication. But not unfrequently, with patients enfeebled by long-continued suffering and dyspepsia, an operation is but a *coup de grâce*.

The diagnosis consists in recognizing the true character and origin of the dyspeptic symptoms, which in some cases may not at once be obvious. Thus, an old man who thinks himself in other respects in fair health, may come to his physician complaining of loss of appetite, of frequent recurrence of vomiting, of attacks of diarrhœa, of recurring fits of "biliousness," or of megrim, the trouble in question being dependent on the unsuspected presence in the bladder of stagnating urine, due to obstructive hypertrophy of the prostate.



The treatment consists, of course, in removing the primary cause by surgical procedures, insuring due evacuation of the partially retained urine. But if the benefits to be derived from such surgical treatment are incontestable, it is often a very delicate matter, involving considerable risk and responsibility, to carry it out. In many cases the patient must be prepared for operation by a careful medicinal and dietetic treatment, having in view the elimination of the urinary poison with which his system is saturated, and the restoration of his strength. For this purpose Guyon recommends the use of mild laxatives, repeatedly administered, accompanied and followed by various tonics, including alcohol, together with the use of such food as the patient can digest and assimilate. Milk, to the amount of two quarts daily, and raw meat are advised. Friction and massage are also serviceable.

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#### MASSACHUSETTS MEDICO-LEGAL SOCIETY.

THE second stated meeting of this society was held at the rooms of the Massachusetts Medical Society, 36 Temple Place, Boston, on Wednesday, February 6th, at half past two o'clock, Medical Examiner Alfred Hosmer, M. D., president, occupying the chair.

After the reading and acceptance of the minutes of the previous meeting, Medical Examiner Frederick Winsor, M. D., of Winchester, the corresponding secretary, read an abstract from the reports of the various medical examiners for the past seven months as follows: Four hundred and seventeen views were made, of which one hundred and twelve were followed by autopsies, and of these ninety-five were succeeded by inquests. Twenty cases of death by violence were reported by medical examiners in which no inquests were held. Ninety-four cases were recorded as deaths from natural causes; seventy-seven from railroad accidents; one hundred and twenty-one from other accidents; sixty-six from suicide; and forty-seven from violence.

Eighteen cases were followed by prosecutions. Five of these resulted in conviction up to the time of reporting. Of the fifty regular members of this society forty had reported to the corresponding secretary at the date of this report. Lowell is the only city or large town from which no report has come in. The following gentlemen, on nomination by the committee of nominations, were elected associate members: Theodore H. Tyndale, Esq., John C. Gray, Jr., Esq., W. W. Wellington, M. D., Adj. Prof. R. H. Fitz, M. D., Prof. Edward S. Wood, M. D., Prof. O. W. Holmes, Jr.

DR. HARRIS presented a communication on a case in which suspicions of abuse of a child had been held as a cause of its death. The medical examination and autopsy caused these suspicions to be abandoned, because the evidence of death from natural causes was clearly established.

The report of the committee on the law of medical examiners was then read by the chairman of that committee, Medical Examiner Harris, of Suffolk County. In this report the committee commented on the supposed defects in

the present law, and concluded that many of the doubtful points were simply questions of interpretation, and not of imperfect wording of the statute, and that such questions will be quite as well settled by experience and practice as by additional legislation. The committee consider that the present provision for mileage is in many cases insufficient, but as this allowance can be increased at the pleasure of the county commissioners, it is recommended that additional compensation be asked of the commissioners rather than from the general court. The committee reported that the law thus far is working with the least possible friction, and that it would be unwise and even dangerous to the system itself to ask for additional legislation until sufficient time had elapsed to enable the collection of reliable data from which a sound judgment can be formed as to the exact changes, if any, desirable to be made; and that to ask for a change in the minor provisions of the law at the present time might open a way to changes sufficiently radical to defeat the object of the present system of investigation. Therefore the committee recommend that no action looking to a revision of Chapter 200, Acts of 1877, be taken by the society. This report was then accepted by the society. A report from a special committee appointed July 23d to obtain the opinion of the attorney-general as to the interpretation of certain points in this law was then read by its chairman, Medical Examiner Pinkham, of Essex, and on motion referred to the regular standing committee. After the transaction of certain business of interest only to the members, the society adjourned.

There were present of the active members, Medical Examiners Hitchcock, Hartwell, Morison, Snow, Parker, Gleason, Lamb, Hurd, Harris, Presbrey, Bronson, Irish, Carlton, Russell, Adams, Winsor, Tower, Draper, Pinkham, Sullivan, Abbott, Hildreth, Hosmer, and Amory. Of the associate members, the secretary of the State Board of Health.

It may be of interest to our readers to learn who are the regular and associate members of this society. The following is a correct list to February 12, 1878:—

*Active Members:* Medical Examiners Samuel W. Abbott, Middlesex; J. F. A. Adams, Berkshire; Robert Amory, Norfolk; C. A. Bemis, Norfolk; Theodore F. Breck, Hampden; J. B. Brewster, Plymouth; J. R. Bronson, Bristol; Charles A. Carlton, Essex; N. S. Chamberlain, Middlesex; Erastus C. Coy, Franklin; Marcus F. Delano, Barnstable; F. W. Draper, Suffolk; Jerome Dwelley, Bristol; J. Franklin Dyer, Essex; D. B. N. Fish, Hampshire; J. Converse Gleason, Plymouth; Charles Haddock, Essex; F. A. Harris, Suffolk; B. H. Hartwell, Middlesex; J. L. Hildreth, Middlesex; J. G. S. Hitchcock, Norfolk; D. W. Hodgkins, Worcester; C. C. Holcombe, Berkshire; A. R. Holmes, Norfolk; Alfred Hosmer, Middlesex; Y. G. Hurd, Essex; J. C. Irish, Middlesex; H. A. Jewett, Worcester; Henry Johnson, Bristol; John B. King, Nantucket; A. D. Kingsbury, Norfolk; W. D. Lamb, Essex; D. W. Miner, Hampshire; J. Morison, Norfolk; J. D. O'Connell, Dukes; G. S. Osborne, Essex; A. E. Paine, Plymouth; W. M. Parker, Worcester; John Pierce, Dukes; J. G. Pinkham, Essex; S. D. Presbrey, Bristol; J. M. Rice, Worcester; Ira Russell, Worcester; H. L. Sabin, Berkshire; G. W. Snow, Essex; J. L. Sullivan, Middlesex; C. C. Tower, Norfolk;



J. H. Waterman, Hampden; J. W. Winslow, Hampshire; F. Winsor, Middlesex.

*Associate Members ex officiis:* Attorney-General Hon. Charles R. Train, Boston; District Attorneys, Hon. George Stevens, Lowell; Hon. Asa French, Braintree; Hon. D. W. Bond, Northampton; Hon. Edgar J. Sherman, Lawrence; Hon. H. B. Staples, Worcester; Hon. Oliver Stevens, Boston; Hon. George Marston, New Bedford.

*State Board of Health:* Hon. H. I. Bowditch, M. D., Boston; Hon. Robert T. Davis, M. D., Fall River; Hon. Richard Frothingham, Charlestown; Hon. D. L. Webster, Boston; Hon. J. C. Hoadley, Boston; Hon. T. B. Newhall, Lynn; Dr. C. F. Folsom, Boston.

*Associate Members by Election:* Theodore H. Tyndale, Esq., John C. Gray, Jr., Esq., W. W. Wellington, M. D., Adj. Prof. R. H. Fitz, M. D., Prof. E. S. Wood, M. D., Prof. O. W. Holmes, Jr.

The blank forms for reporting cases coming within the jurisdiction of the medical examiners are in detail as follows:—

1. View of body in town or city of —, county of —, locality —. 2. Date and hour. 3. By whom summoned. 4. Sex, age, nationality. 5. Name and residence. 6. Position and condition of body. 7. Circumstances determining decision of medical examiners. 8. Autopsy and its results. 9. Microscopical and chemical examination. 10. Inquest, prosecution, conviction.

The announcement was made that the afternoon of Tuesday, June 11th, preceding the annual meeting of the Massachusetts Medical Society, had been set aside by the committee of that society appointed to procure scientific papers to be read before the members of the society, in order that the Massachusetts Medico-Legal Society might furnish the communications from its own members.

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## A MANUAL OF NURSING.<sup>1</sup>

THIS little book is an outgrowth of the increased interest taken of late in the education of specially trained attendants for the sick. Very few years have elapsed since any ignorant old crone who could wash a baby and give it enough of "dalby," make a poor gruel, and tyrannize over the household while doing it was supposed to be indispensable to every lying-in room.

The energetic and intelligent labor of a few ladies, with the Bellevue Hospital for a field of operations, has resulted in the awakening of an interest throughout the country, manifested by the organization of training schools in other large cities. From these we may reasonably hope for a more responsible class of nurses, women better born, better bred, better qualified in every way. The Manual evidently aims at something higher, something more of intelligence, culture, and self-sacrifice than has characterized the nurse of the past.

Some parts of the book would at first sight seem to belong rather to the physician or surgeon than to the nurse, to the hospital superintendent or the

<sup>1</sup> *A Manual of Nursing.* Prepared for the Training School for Nurses attached to Bellevue Hospital. New York: G. P. Putnam's Sons. 1878.

head of a family than to the subordinate employee. The kind of bed or mattress, for instance (page 11), is not usually optional with the nurse, nor should we all be quite so positive about the "woven wire" bed. The treatment of "emergencies," as burns, fractures, hæmorrhages, bites, sunstroke, etc., are matters which the sufferers will be more likely to consider as belonging to the surgeon, not the attendant, and if it be in hospital there is always the house medical officer in the absence of his chief.

In the chapter on Monthly Nursing, also, some of the directions are more appropriate for the medical attendant than the nurse. In no department of her vocation is a nurse's irresponsible independence more dangerous to the patient. The physician alone is held responsible, and no nurse should be tolerated who ventures to assume authority not expressly delegated by him. The instructions as to feeding the child soon after birth, washing its mouth, etc., are open to criticism. The direction to make firm pressure upon the abdomen after the head is born may well be questioned. The worst ruptures are often due to the passage of the shoulders, and unless there be positive strangulation by the cord it would seem much wiser to instruct the nurse to do nothing to hasten delivery.

These remarks are not made to depreciate the value of the book; far from it; it is on the whole a step in the right direction. Every endeavor to train a better, more educated class of attendants should and will meet with the cordial approval of those who have experienced the ignorance or stupidity, or worse, of the old régime, and it is readily admitted that a knowledge of details, to some extent indeed a pathological knowledge, is desirable for them; but at the same time it cannot be well for any of the parties concerned to obliterate in the slightest degree the broad lines of demarkation between the authority which directs and the instrument for carrying those directions into effect. So far as they go, the instructions as to washing, dressing, and feeding of patients, the administration of medicines, the remarks on ventilation, contagion, disinfection, etc., are concise and clear, and should be in the hands of every head of a household as well as of every nurse.

G. H. L.

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#### CLAUDE BERNARD.

THE French medical journals bring us the particulars of the death of Claude Bernard, a brief announcement of which was made in the JOURNAL of February 14th. This eminent physiologist, having suffered since last December from a severe disease of the bladder, died on the 10th of February in the sixty-fifth year of his age of a pyelonephritis with uræmic complications. France has thus to deplore the loss of a savant who has been, during more than twenty years, her acknowledged leader in physiological science.

It is interesting to notice that Claude Bernard, notwithstanding his great natural qualifications for experimental physiology, seems to have been somewhat slow in discovering his true vocation. At first pharmacy, and afterwards literature, occupied his attention. As the successful author of a *vaudeville* performed at Lyons, he seems to have come to Paris with the intention of bringing out a new work, a tragedy, on the metropolitan stage, and of devoting him-



self to a literary life. Persuaded to abandon this project by the advice of Saint-Marc Girardin, he entered upon his medical career, and in 1839 we find him enrolled as *interne des hôpitaux*. In 1841 he was appointed *préparateur* in the laboratory of Magendie, and two years later became doctor of medicine at the age of thirty years. Although from this time onward Claude Bernard was laboring in the field where he was destined to win his laurels, it was only ten years later that he seems definitely to have abandoned the intention of practicing his profession and to have devoted himself wholly to studying and teaching experimental physiology. The chair of general physiology was created for him, and in February, 1854, he delivered his first course of lectures. His great ability, both as an investigator and as a teacher, was at once apparent, and from this moment his success was assured. Honors and titles were showered upon him in rapid succession, culminating in 1869 in his admission to the French Academy as the successor of Pleurens, and in his appointment as senator under Napoleon the Third.

Claude Bernard possessed in an eminent degree those qualities which secure success, both as an investigator and a teacher. His published works bear ample testimony to his experimental dexterity, his rigorous methods of research, and his skill in imparting information. It is true that in the latter years of his life, under the pressure of new duties connected with his accumulating honors, he seems occasionally to have allowed his desire that each year should be marked by new physiological discoveries to lead him into statements which had not received that thorough experimental verification to which earlier in life he had been accustomed to subject every physiological hypothesis. These cases were, however, few in number, and no one was ever readier than Claude Bernard to revise former statements in the light of new observations, and probably no investigator who has contributed so largely to the advancement of his chosen science ever made fewer assertions which have not received ample confirmation from subsequent researches.

Nearly every department of physiology has been illumined by the genius of Bernard. An enumeration of his works would resemble a table of contents of a text-book of physiology. If any one of his discoveries is to be mentioned as of preëminent importance for the progress of science, that of the glycogenic function of the liver is entitled to this distinction. It may yet be shown that Bernard's views of the various processes connected with glycogenesis require some modification in their details, but the brilliancy of the original discovery, and the patience and devotion to truth with which through his whole life he sought to confirm and extend it, will ever be regarded as Bernard's strongest claims to be considered the leading physiologist of his time.

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#### MEDICAL NOTES.

— The *Deutsche med. Wochenschrift* states that Lister's method of dressing wounds, after a careful trial in the Marine Hospital at Pola, has been introduced into the Austrian marine service, where its use is obligatory.

— At the opening of the new Physiological Institute in Berlin, Professor

Dubois-Reymond made the following interesting remarks, which we find in the *Allgemeine Medicinische Zeitung*: "I stand at the goal of twenty years of labor and look with satisfaction upon the palace which has been consecrated to science. And now that this house is about to be consigned to its destined purpose, I feel constrained to glance backward over the past. With the most profound gratitude I recall to memory those who directly or indirectly have made the erection of this building a possibility. At the right and left of the entrance you may see the portraits of the two men who opened the way for physiology in Germany. These men were Haller and Johannes Müller. By the ordering of chance, precisely one century has elapsed since the day of Haller's death. Although in his day physiology achieved less liberty than was already possessed by anatomy, physics, chemistry, astronomy, etc., it nevertheless was Haller who made physiology independent.

"During the period when Helmholtz, Ludwig, Brücke, Donders, and Claude Bernard sat at the feet of Johannes Müller, there were no physiological laboratories in existence. They were not necessary, for physiology was based only upon the doctrines of subjective ideas, and it was but seldom that one was able to see a microscopic preparation.

"Between the years 1830 and 1840 Liebig created chemical laboratories; between 1840 and 1850, Purkinje opened in Breslau the first physiological institute, and his example was followed in other universities. But while the methods of research in physics, chemistry, etc., are of a similar nature, physiology demands a variety of resources. She asks for a physical, a chemical, a vivisectional, and a microscopical department. To the gratification of this demand Berlin, in the past, has offered many impediments, which for the most part were based upon the fact that the university has been exceptionally fettered for means. But you now see the building of the Physiological Institute in a state of completion. This will give you a satisfaction which earlier generations were painfully forced to deny themselves. The perfect condition of what has been prepared, it is to be hoped, will bring you most blessed results. The greatest painstaking has been given to the department of vivisection. To the recently arisen adversaries of this branch it is only necessary to say, 'For every dog's life that is saved mankind must pay a human life.'

"With the means now at our control, the upward flight of science should keep pace with the facilities which are here provided. But chemical laboratories have been active for many years, and yet have not made a Mitscherlich, a Rose, or a Liebig, an every-day occurrence. Why? For this reason: science is advanced by talent, but *talent is a provision of nature*.

"Within a short process of time, eight professors in ordinary have, one after another, come forth from the musty old rat holes of the former physiological laboratory. But, although we have a right to demand that each of them shall be master of his mother tongue, it must be said that each in himself is so little that to expect either one of them to be a perfect physiologist might as justly be required of a newly-fledged graduate. But we may intrust to them the doctrines, the spirit, and the research of physiology. To impart and to demonstrate these to you is what has called us together. Let each now turn to his special task."



— The Pesth *Medicinische Presse* says that Professor Hyrtl, who retired from public life some years since, and has been residing near Vienna, has lately completed a lexicon of terms used in medicine. The book will be warmly welcomed by medical men who go to Germany to study.

— Mr. Lister, in removing a large papillomatous tumor from the larynx was obliged to remove the vocal cords also. The patient subsequently recovered, and in spite of the absence of the cords can talk quite distinctly. By careful examination Mr. Lister discovered that vocalization was accomplished by the vibration of the aryteno-epiglottic folds. He had by previous experimentation found that the stertor in chloroform narcosis was due to the same form of vibration.

— Professor Depont, in a clinical lecture on the Influence of Pregnancy on Suckling, concludes by saying, "Whenever a woman asks you whether, having become pregnant, she ought to continue to suckle her infant, you should reply in the negative, and advise her to procure a nurse. For you may be certain that the disturbances of which I have given you but a very faint sketch, if they have not as yet been produced, will manifest themselves before long to the great detriment of the child's health."

— Dr. Luton, of Rheims, has radically cured congenital inguinal and umbilical hernia by the hypodermic injection of ten drops of a filtered saturated solution of common salt. The *Bulletin de Therapie* for December 30th gives the details.

— The Philadelphia *Druggist and Chemist* announces that at a recent meeting of the Pharmaceutical Association of that city there was displayed a collection of American drugs which are to be placed on exhibition at the Paris Exposition, and will subsequently be presented to the Paris College of Pharmacy. It is proposed by the Philadelphia College of Pharmacy to make similar donations to colleges in various other countries of Europe.

— The *Gazette medicale de Strasbourg* states that Dr. Riedinger, after an amputation of the thigh, arrested hæmorrhage from the bone, which had resisted all other means, by introducing pieces of catgut into the bleeding orifice.

— "The last dose from a bottle containing a mixture of strychnia and bromide of potassium," says the *Detroit Medical Journal*, "poisoned the patient. The bromide had precipitated the strychnia."

— The *Medical Times and Gazette* says that Professor See, of Paris, has found a relief from asthma in inhalations of the iodide of ethyl.

— In reference to a recent brilliant lecture on oil-paintings, delivered by Liebreich, ophthalmic surgeon to St. Thomas's Hospital, the British *Medical Journal* remarks that "the number of medical men who find time, in the midst of busy practice, to devote their leisure to artistic and scientific pursuits, sometimes cognate and sometimes altogether diverse from their medical studies, is on the increase; and the feeling which existed that medical men should, as far as possible, in their pursuits, stick to the shop, has yielded to the more general spread of culture, and to the opinion that many-sided interests and varied culture are not only compatible with the highest grades of skill, but may indirectly conduce to it."

— The Society of Biology of Paris have already set on foot subscriptions to a fund which will be devoted to the erection of a statue to Claude Bernard.

## OBSCURE FORMS OF LIVER DISEASE.

MR. EDITOR, — Inasmuch as your correspondent, Critic, has labored to place me in the absurd position before the readers of the JOURNAL of having reported two cases of disease of the liver, under the title of Obscure Forms of Liver Disease, where no disease of that organ existed, I respectfully solicit space in your pages in which to vindicate, if possible, the correctness of my diagnosis and to point out some errors in Critic's conclusions.

In the brief prelude to his critical review of my paper as reported, he quotes the words "the paper was briefly discussed," intimating by subsequent language that the society held the same view of the paper as he did.

For the critic's information I will say that as a matter of fact the papers read before the Hampden District Medical Society are almost never discussed, *even briefly*, no matter of what character or quality; hence this fact may possibly divest the phraseology of the reporter of some of its import as divined by the lively imagination of the critic.

Again, Critic begs to present an "*imaginary discussion*," which in the minds of not a few of the intelligent members of the society," he says, "must doubtless have been carried on, although the record unfortunately fails to give the details."

Does Critic suppose that the secretary of the society in question can report the "*imaginary discussion*" which may be going on in the minds of the members of the society? No one in these parts, that I know of, claims the power of divination or prophecy. That, evidently, is peculiarly the province of Critic.

Let me assure him, however, that he did not read the "intelligent minds" of this society correctly, for all who have seen Case I., and all who gave any expression of their views of the case at the meeting, agreed with the author of the paper, and do so now.

Before proceeding to consider the questions and answers of Critic, I wish simply to say that I stated in my original paper read before the society that I purposely withheld my own diagnosis of the cases (other than that they were cases of liver disease), and neglected to furnish complete data, in order to draw out the opinions of members and to stimulate discussion. I did not suppose there would arise a critic so verdant as to fancy that I should, or could have failed to diagnosticate "severe renal disease," when the symptoms present would have rendered it self-evident to any student who had attended a single course of lectures, or to a mere tyro in medical science. I thought that any critic would accord to me the possession of a grain of common sense, even in the absence of the information which he thinks I *could not* have given because I *did not*. The "renal disease" was one of the very things which I pointed out originally to the society as tending to *obscure* the *hepatic affection*. So here I must rob Critic of his pretended claim of first discovering the "renal disease."

Critic asks, "What proof have we that the liver was affected in the first case?" Let us see.

In the first place the patient, as I said in my original communication, was seized with violent pain in the epigastric region, the pain extending through



to the back and upward into the thorax, accompanied with chills, etc., followed by considerable febrile reaction, which continued for three or four weeks, according to the statements of the attending physician. His diagnosis of the case at the outset, it will be remembered, was "congestion of the liver," and the fever which followed he styled "*bilious*." Now will Critic please take notice that there had been no pain whatever in the renal region until after the lapse of several weeks, and after the medical attendant had applied his blisters there. At this stage, icterus, intense and persistent, ensued.

Touching this point Critic says: "Only when that pain was severest was there icterus." If he will now refer to my language as reported he will observe his error. It reads: "The paroxysms of pain are always followed by *greater intensity* of the jaundice," etc.

Now, says Critic, "the question arises whether a yellow skin and some light-colored dejections (intermittent, according to the above-named pain) ought to lead us to suspect hepatic disease as the chief trouble." His answer is, "I think not." Certainly not. But the "yellow skin" and "light-colored dejections" were not intermittent, and have not been to this date, March 20, 1878. They have been continuous since October last, varying, as I said, only in degree. Here Critic asks, "What have we?" and says, because of imperfect report, he cannot exactly say; but owing to the fact that the first physician found enlargement *behind* the right hypochondriac region he is led to ask whether a nephritic or perinephritic abscess may not explain the whole matter, and should not the swelling in the back have been explored by the aspirator?"

Just here let me ask Critic, in case he were called upon to examine a patient for enlargement of the liver, whether he would expect to find the external evidence of it anteriorly or posteriorly? The swelling "*behind*" was all a *myth*, spoken of as a joke, so alluded to in my original paper; hence the idea of an abscess is exploded, and the call for the use of the aspirator was only in Critic's imagination.

Critic asks: "Was there any distinct tumor felt between the front wall of the abdomen below the line of the umbilicus and the renal region?" No, not the slightest indication of one.

Critic again remarks that "if the palpation indicated had been made it might have helped the diagnosis." It *was made*, and it did help the diagnosis of the *hepatic affection*, for it revealed, as I said before, well-marked diminution in the area of hepatic dullness, indicating contraction and atrophy of the organ.

Regarding the purpura and jaundice, which Critic says might readily have followed as consequences of local pressure or general cachexia, etc., I ask if they are not much more apt to attend affections of the liver than those of any other organ?

The syncope, palpitation, and dyspnœa, which Critic says are common accompaniments of renal trouble, also attend diseases of the liver, and almost always hysteria, of which this patient has been a notable sufferer for many years. Thorough auscultation and percussion of the heart and lungs revealed no disease of these organs whatever, those phenomena having been purely nervous and sympathetic in character.

Critic adds: "The records of the secretary of the society do not give any reply to the critic, although doubtless one was given, mentally at least, and I sincerely wish we could see it."

I don't know how Critic can be accommodated with *seeing a mental reply*, but the secretary of the society gave his verbal diagnosis of *hepatic disease* in Case I. from symptoms described, and doubly confirmed by having seen the patient with me. Other "intelligent minds" have arrived at the same positive diagnosis. Critic is at liberty, however, to consult the secretary *ad libitum*, and need not rely upon my statements, which he has put himself to so much trouble to disprove.

The following are the evidences of liver disease in Case I.: (1.) The peculiar earthy, sallow, jaundiced color, dryness and harshness of the skin (which has continued unremittingly for a period of six months), and emaciation. (2.) The great disturbance of digestion, nausea, distress in the epigastric region, and inability to digest food. (3.) The character of the stools, which, though occasionally indicating the presence of bile, have by far the greater portion of the time been clay-colored and of pasty consistence, which persistent character can never be traceable to renal or other disease. (4.) Hæmorrhages from the mucous cavities, uterus, rectum, bladder, and nares. (5.) The presence of the coloring matter of the bile in the perspiration, and abundance of bile in the urine. (6.) The very well-defined diminution in the area of hepatic dullness, indicating atrophy of the organ. (7.) The large and numerous ecchymoses, purpuric spots on the surface of body, which, while they may attend disease of other organs, or result from general cachexia, most frequently and almost always attend certain liver affections.

Now concerning Case II., Critic will please consider the fact that during the first attack of his illness he was attended by another physician, who found at that time no pleurisy, no pulmonary trouble excepting a common cough. This statement I also made in my original paper read before the society. I am not responsible for its not appearing in the report. This physician regarded the whole trouble then as due to liver disease, and so treated the patient. Therefore "his going to work before being fully recovered," his second attack two or three months later, could with no propriety be claimed to be due to "neglected pleurisy." Critic says: "Proper precautions were not used, and auscultation in the earlier period of the disease was not made." This is an unwarrantable assumption on his part. Does he suppose that any physician of ordinary common sense would fail to avail himself of such valuable aids to diagnosis?

I have nothing to say about the "proper precautions," but I do say that auscultation was made early in the first attack by the attending physician, who found no thoracic disease, neither did the patient complain of any, excepting the cough already referred to. Perhaps Critic will be gracious enough to admit that a violent cough may attend diseases of other organs, though the lungs be perfectly normal, — free from any organic disease, or inflammation of the pleura.

When I was called to see him at the commencement of his second attack, Critic will please take notice that I say the patient was taken with chill.



with great pain and tenderness in the hepatic region. There were frequent rigors and exacerbations of fever for a week or two. The pain and tenderness extended upward, when the cough constantly increased, and respiration grew more painful. The pleurisy was evidently caused by the extension upward of the inflammation from the liver, involving the pleura. Auscultation and percussion revealed no disturbance of the chest wall excepting at its lower part, and certainly there was not effusion in quantity sufficient to produce fullness or bulging in the hepatic region, provided pleurisy was the disease *per se* and the liver sound.

Critic will, perhaps, agree to the statement that in inflammatory affections of the liver, especially perihepatitis and abscess, pleurisy with more or less effusion is a common result simply as a complication. If not I will respectfully refer him to the authorities who claim to be experts concerning these cases, and have a good right to make such a claim by virtue of their recognized ability.

If Case II. were a case of empyema, as Critic claims, he must acknowledge it to have been one with far less constitutional disturbance and respiratory difficulty, as well as a better and more prompt recovery, than is wont to result in such cases. Now I will endeavor to answer his question, "What proof is there of liver disease in Case II.?"

(1.) The fact of priority of pain, tenderness, and well-marked fullness in the hepatic region, even before pleurisy was manifest or complained of by patient. (2.) The sallow complexion, frequent rigors, fever of a bilious type, and repeated exacerbations of the same; the appearances of the tongue and of all of the excretions of the body. (3.) The location of the external opening, the direction of the fistulous tract downward toward the liver as indicated by the flow of pus from external pressure, and, more than all, the character of the pus, which of itself was sufficient to settle the question of diagnosis.

There are methods of treating pus from empyema and hepatic abscess which show the fibrous tissue of the former and the presence of hepatic tissue in the latter. Now, if Critic is not familiar with this important aid to diagnosis, I will hold myself ready to give him clinical instruction whenever a good opportunity shall present itself; and if the reporter failed to furnish him with satisfactory data, I trust the scales will fall from his mental vision so that the two cases of liver disease may be no longer veiled in such *obscurity* that he will be unable to discern them.

Again, a word about the information Critic has so kindly furnished contributors to the JOURNAL regarding the *proper method* of reporting cases. On this point I agree with him fully; but in criticising my cases he should have considered the fact that I had a special purpose in presenting the cases in the form I did before the Hampden District Medical Society, namely, to have the members give their individual diagnosis, and to provoke discussion. The reporter, or (as in this case) the secretary, of any society is supposed to report proceedings correctly, not alter them to suit others, and if he reports them to any journal the editors exercise the right of rejection. Any critic has an equally good right to make any reasonable criticism, and it is perfectly proper for him so to do; but when he labors to make a fool of any contributor, the

right of vindication should be as freely given the latter as the privilege to assail has been given the former.

In conclusion let me add that I have seen soldiers on the field of battle manifest commendable courage in firing at the enemy when they could readily skulk behind trees and stone-walls, and no longer; and I held about the same opinion of them as I now hold of any medical man who will assail the opinions of a contributor, and then hide behind the mask of a common *nom de plume*, not possessing the courage openly to father his own convictions.

GEO. S. STEBBINS, M. D.

#### COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending March 23, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean of ten Years, '68-'77.
New York.	1,093,171	567	26.97	24.32	28.71
Philadelphia.	876,118	269	15.96	18.80	21.54
Brooklyn.	549,438	188	17.79	21.51	25.50
Chicago.	460,000	130	14.69	17.83	22.39
Boston.	375,476	132	18.28	20.10	24.34
Providence.	100,000	38	19.76	18.81	19.20
Lowell.	55,798	21	19.62	19.09	22.50
Worcester.	54,937	20	18.94	14.07	22.30
Cambridge.	53,547	15	14.56	18.69	20.83
Fall River.	53,207	13	12.71	21.35	24.96
Lynn.	35,528	20	29.28	20.42	19.67
Springfield.	33,981	12	18.38	16.04	19.77
Salem.	27,140	10	19.16	20.38	21.15

BOOKS AND PAMPHLETS RECEIVED.—Injuries of the Eye in their Medico-Legal Aspect. By Ferdinand von Arlt, M. D., Professor of Ophthalmology in the University of Vienna. Translated by Charles S. Turnbull, M. D. Philadelphia: Claxton, Remsen, & Haffelfinger. 1878.

Second Annual Report of the Managers of the State Asylum for the Insane at Morristown, N. J. October 31, 1877.

Twelfth Report of the Board of Trustees of the Connecticut Hospital for the Insane. 1878.

Note on Hydro-Bromic Acid. By Edward R. Squibb, M. D., of Brooklyn. (Transactions of the Medical Society of the State of New York.)

Suicide not Evidence of Insanity. (Medico-Legal Society of the City of New York.) Hon. O. H. Palmer.

Sixty-Fourth Annual Report of the Trustees of the Massachusetts General Hospital. 1877.

Chemical Experimentation, being a Hand-Book of Lecture Experiments in Inorganic Chemistry. By Samuel P. Sadtler, A. M., Ph. D., Assistant Professor of Chemistry in the University of Pennsylvania. Louisville: John P. Martin & Co.

Suspension as a Means of Treating Spinal Distortions. By Benjamin Lee, A. M., M. D., of Philadelphia. (Transactions of the American Medical Association.)

Proceedings of the Louisiana State Medical Association, the Constitution and By-Laws. New Orleans. 1878.

The Ætiology of Intemperance. By Charles W. Earle, M. D., Physician to the Washington Home, Chicago. (Supplement to the Seventh Annual Report.)

Scarlatina in Chicago. By Charles W. Earle, M. D.









# THE BOSTON MEDICAL AND SURGICAL JOURNAL.

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## SUBPERIOSTEAL EXCISION OF THE ENTIRE SCAPULA AND HEAD OF THE HUMERUS: RECOVERY.

BY CHARLES B. BRIGHAM, M. D., SAN FRANCISCO.

MAURICE KAHN, aged thirty-five, single. In March, 1877, the patient had what he supposed was an attack of rheumatism in the right shoulder; a gland in the right axilla became swollen and painful, but did not suppurate. Under medical treatment two small incisions were made over the acromion process, and considerable pus was evacuated. The patient's condition did not improve, and he entered the County Hospital at Los Angeles, where he stayed three months; during this time abscess after abscess opened spontaneously. The patient entered the French Hospital at San Francisco on the 15th of October, and was placed in my service. At that time there were fourteen fistulous openings, all leading to dead bone. There was no positive history of specific disease; the patient had received a severe blow on the affected shoulder several years before, but it is doubtful if this had anything to do with his present condition. The suppuration was profuse. A liberal allowance of food was ordered, and a tonic containing iodide of potash; bran baths were given daily. An operation was advised, and the patient agreed to have all the dead bone removed. Accordingly, on the 23d of October, 1877, he was etherized, Dr. William S. Whitwell assisting. An incision four inches in length was made from a point half-way between the coracoid process and the acromion. Everything was divided down to the bone; the head of the humerus was exposed without difficulty, and removed at the surgical neck by a chain saw; no vessels were tied. The bottom of the wound was then explored by the finger, and the glenoid cavity was found to be extensively diseased. The finger was then passed into a fistulous opening near the acromion and carried along the spine of the scapula; this part also was found necrosed throughout. As far as the finger could reach along the dorsum dead bone could be felt. It was then decided to remove the entire scapula, the glenoid cavity, the spine, and the outer surface being necrosed. An incision seven inches in length was made along the spine of the scapula; this extended over the shoulder about an inch and a half from and par-

allel to the incision made for removing the head of the humerus. The periosteum scraper and the fingers alone were used to free the scapula from its surrounding muscles. Dissecting from the spine downwards, the deltoid and infraspinatus muscles were freed from the bone without much difficulty. The origin of the teres major was reached by passing the finger through a fistulous opening over the inferior angle. When all the outer surface of the bone below the spine was free attention was given to the supraspinous fossa; to separate the muscular attachments of this region was the most arduous part of the operation. When the coracoid process was free a strip of linen was passed around its base, including also the acromion, and the whole bone was tilted upwards and outwards; the inner surface was slowly reached; the subscapularis muscle was easily detached; the insertion of the serratus magnus was freed by the periosteum scraper. The bone came away entire, and quite free from periosteum; one small superficial vessel was tied; the hæmorrhage was very slight, owing to the exclusive use of the fingers and periosteum scraper. The operation lasted an hour and a half. Four sutures united the edges of the incision. A rubber drainage tube was passed from the line of the incision to the fistulous opening below the locality formerly occupied by the inferior angle of the scapula. A drainage tube was also placed in the wound made for the excision of the head of the humerus; two sutures united the edges of this wound. The dressing consisted of charpie soaked in carbolized glycerine, over which was placed a thick layer of cotton-wool, which enveloped half the body.

The patient rallied well from the operation; in the evening, pulse 120, temperature 37.5° C.; there was no pain of any account. The patient was quite cheerful.

October 24th. Pulse 108; temperature 37°. Patient perspiring freely; fed on beef tea and iced milk; tongue coated. Evening, pulse 120; temperature 38°. Slept at intervals during the day.

October 25th. Pulse 108; temperature 37.5°. Evening, pulse 120; temperature 37°. Patient takes ten grains of quinine during the day, and half a grain of morphine during the night.

October 26th. Pulse 100; temperature 37°. Slept about three hours last night. The dressings were removed for the first time; there was a bloody discharge from both tubes. Where the sutures were placed in both wounds there was union by first intention.

October 27th. Pulse 100; temperature 36.5°. Dressing again changed; suppuration moderate and bloody.

October 28th. Pulse 108; temperature 37°. Evening, pulse 110; temperature 37°. Patient quite feverish.

October 29th. Pulse 96; temperature 37°     Patient feels much better and quite hungry.









October 30th. Pulse 96 ; temperature 37°. Suppuration very free. There is no swelling of the arm, fore-arm, or hand ; the sides of the large incision are without any redness whatever.

October 31st. Pulse 96 ; temperature 36.5°. All the sutures were removed ; except where the drainage tubes were placed the wounds had united by first intention. Patient had a troublesome diarrhœa, which was arrested by a mixture of camphor, opium, and rhubarb.

November 1st. Pulse 96 ; temperature 37°. A poultice was placed over the wound on account of a diminished suppuration. The whole shoulder is washed daily in soap-suds.

November 2d. Pulse 96 ; temperature 37°. Patient improving daily in general health. The pus collects at the lower part of the scapula wound in spite of the drainage tube.

November 3d. The patient feels as if he could get out of bed and walk ; is hungry all the time. The wound begins to sink in.

November 4th. Pulse 96 ; temperature 36.5°. A small incision was made at the lower part of the wound where the pus collected ; into this opening a piece of drainage tube two inches in length was inserted.

November 5th. Pulse 84 ; temperature 37°. The drainage is now complete.

November 6th. The patient sits without fatigue ; the back is perfectly smooth ; the absence of the scapula is hardly noticed.

November 7th. The arm and fore-arm for the first time are somewhat swollen ; the suppuration of the smaller wound is much diminished.

November 8th. Patient sat up all day. The arm remains swollen, as well as the feet and scrotum. Digitalis and cream of tartar tea were given, as the urine was scanty.

November 9th. Urine more abundant. Both legs are bandaged. Patient insists upon getting up daily.

November 13th. An old fistulous opening near the middle of the arm reopened and discharged freely ; from this time the swelling in the arm diminished.

November 20th. All bandages removed from the legs. The suppuration is very moderate, and is encouraged by poultices. From this date the patient walked out-of-doors daily ; small bits of necrosed bone came away from time to time. The improvement in general health is remarkable. Poultices of flaxseed meal smeared with cosmoline and covered with cotton-wool were used as dressing until January 1st, when the suppuration having nearly ceased cosmoline alone was applied. The deformity of the shoulder cannot be detected when the dressing of cotton wool is used ; when undressed the deformity is but slight, as is seen in the heliotype. As to movement, the patient can already put his right hand to his left shoulder unassisted ; he can move his arm

backwards and forwards an inch in each direction ; and has full use of the right hand in writing, eating, and in all the ordinary movements. He purposely gives the limb all the gentle exercise possible, such as carrying light weights, playing cards, etc.

The appearance of the excised bones is as follows : the head of the humerus is rough and bare, with a small portion of ossified cartilage adherent to it ; its spherical appearance is preserved ; the greater tuberosity is necrosed and jagged ; the shaft is healthy. The scapula is necrosed throughout and much thickened ; the coracoid process is reduced to a thick, straight stump ; the spine is nearly destroyed, but still supports a tapering acromion. At the lower end of the spine two sinuses as large as a quill traverse the bone ; lower down, near the middle of the posterior border, is another sinus, very round, and passing through the bone obliquely. The posterior border is uneven and notched ; the inferior angle is much thickened ; the inferior border shows several projecting spiculæ of bone ; the glenoid cavity is completely destroyed. The inner surface of the bone is rough and thick ; the three sinuses are visible ; the bone is transparent only at one point near the centre ; there is a building up of bone below the coracoid process. Seven small pieces of bone belonging to the spine of the scapula came away during the operation.

The operation of excision of the shoulder blade is interesting for several reasons, namely, from its rarity, there having been but comparatively few such operations performed ; from its magnitude, the scapula being the largest flat bone in the body, imbedded deeply in strong muscles ; from the possibility of removing the diseased shoulder blade while saving the healthy arm, the operation being, as Sir William Fergusson said, “the *ne plus ultra* of conservative surgery.” The operation by a single incision along the spine is believed to be without precedent.

Mr. James Syme, one of the first (Professor Langenbeck was the first) to perform excision of the scapula while saving the healthy arm, published the following conclusions : —

- (1.) That the entire scapula, either alone or together with the arm, may be removed without much difficulty or loss of blood.
- (2.) That the wound thus inflicted may heal quickly and soundly.
- (3.) That the arm if preserved may be strong and useful.



## LECTURES.

## ON THE PHYSIOLOGY OF THE SPINAL CORD.

DELIVERED AT THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK,  
BY PROF. JOHN C. DALTON.

[REPORTED BY P. BRYNBERG PORTER, M. D.]

## III.

## CROSSED ACTION AND REFLEX ACTION OF THE SPINAL CORD.

GENTLEMEN, — In the spinal cord the paths for the transmission of motor impulses are known as its motor tracts, and those for sensitive impulses as its sensory tracts, and we shall now endeavor to follow the course of these tracts more perfectly. In doing this we shall find that hitherto, in our study of the cord as a medium for the transmission of impulses, we have left unnoticed one important fact, that is, the fact of its crossed action. The spinal cord, as a medium for voluntary motion and conscious sensation, exerts a crossed action. A tactile impression made upon the integument of the right side of the body is conducted by the sensory tracts of the spinal cord to the left side of the brain, and an impression made upon the left side of the body is conveyed to the right side of the brain. In the same way there is a similar cross-action in regard to movement, so that when the right arm, for instance, is raised, the stimulus for this action comes from the left side of the brain, and *vice versâ*. How do we know this? In the first place by experiments upon animals, and, secondly, by the observation of morbid effects in the human subject. I have often seen a galvanic stimulus, applied to one side of the brain in the dog, produce local movements on the opposite side of the body; and this crossed action of the cord is universally recognized as a pathological fact in connection with various forms of paralysis and other affections of the nervous system.

We come next to inquire, What are the details of this action; how and where do the fibres which conduct motor and sensitive impressions cross each other? Examination of the anatomy of the parts shows that the motor tracts cross each other, not in the cord itself, but in the medulla oblongata, which, as you know, is the enlargement of the cord just above its entrance into the cranial cavity. In that part of the medulla are the *anterior pyramids*, extending upward from the foramen magnum to the lower border of the pons Varolii; and here an interchange takes place of the motor fibres coming from the two sides of the cord. The decussating fibres are derived mainly from the lateral columns of the cord, which preponderate in size over the anterior columns as they approach the medulla oblongata. They cross each other, at the median line, in bundles of considerable size, passing obliquely upward to form

the two anterior pyramids. This decussation of the pyramids, as it is called, is easily visible, not only in man, but in many of the lower animals. In this enlarged model you see what and where the decussation is. Above the anterior pyramids their fibres are continued, through the substance of the pons Varolii, to the crura cerebri, and finally lose themselves in the brain. After passing into the cranial cavity, therefore, the motor tracts may be followed into the medulla oblongata, through the pons Varolii, and, still higher, into and through the crura cerebri.

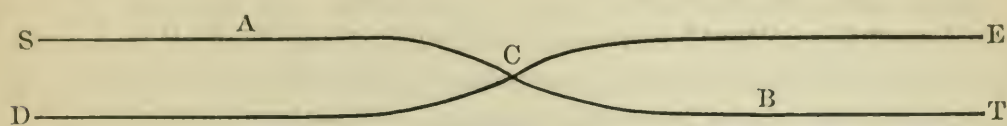
Now, how do we know that the medulla oblongata is the point where the decussation of the motor fibres takes place? This is very simply determined. An injury inflicted upon the motor tracts above this point causes convulsions or paralysis on the opposite side of the body; while if the seat of the injury be below the medulla, its effect is produced upon the same side of the body. If we divide one lateral half of the spinal cord, a paralysis of motion will be produced, limited to the portion of the body below the level of the section, and confined to the same side. Thus, if one side of the cord be divided by a horizontal section in the middle of the back, the posterior extremity of the same side will be paralyzed. On the other hand, if we divide one of the crura cerebri we shall produce a paralysis of both the anterior and posterior limb on the opposite side of the body.

Now, is it possible to paralyze both sides of the body at once by any operation about the medulla oblongata? This may be done by a longitudinal incision through the medulla in the median line. In this diagram of the spinal cord, medulla oblongata, and brain, you see the fibres of the motor tract on each side delineated in blue, and those of the sensory tract in red. You observe that the motor tracts cross each other at the anterior pyramids, so that the fibres which originate in the right side of the brain pass over to the left side of the cord at this point, and *vice versâ*. This shows, therefore, how it is that an injury to the left side of the brain will produce a paralysis of motion on the opposite side of the body; for, owing to the anatomical arrangement of the motor tracts, this must necessarily be the case. After death, in cases of unilateral paralysis, the autopsy usually reveals a cerebral lesion on the opposite side of the brain, most frequently in the corpus striatum or its immediate vicinity. On the other hand, an injury or pathological condition confined to one side of the spinal cord produces a paralysis of motion on the same side of the body.

We come now to the experiment of destroying the power of voluntary motion on both sides of the body at a single stroke. In order to do this we need not disturb the cerebrum at all, but, as I mentioned a few minutes ago, we have only to make a longitudinal section of the medulla oblongata in the median line, which, of course, passes through



the decussation of the motor tracts. Such a bilateral paralysis, affecting all the four limbs at once, may be the result of either injury or disease, though disease of the medulla oblongata is much more rare than of the brain proper. This condition may be illustrated by a diagram representing two railroads crossing each other at an acute angle.



If there be an obstruction at any point, as at A or B between the starting-point S and the terminus T, on the same road, it will interrupt travel only on that road. But if the obstruction be located at the point C, where the two roads cross, travel will be interrupted on both roads at the same time. If we bear in mind these anatomical features of the spinal cord and medulla, almost every variety of unilateral or bilateral paralysis may be accounted for. Most forms of paralysis, as met with in practice, are simple in character. An injury or disease of the medulla oblongata is usually soon fatal, so that the compound paralysees due to this cause do not often come under the notice of the physician; or, if they do, they are accompanied by other symptoms more distressing and important in character.

Next, let us see what is the course of the sensory tracts. We find that there is a decussation of the sensitive fibres in the cerebro-spinal axis as well as of the motor fibres, but in the case of the sensitive fibres this decussation does not take place altogether at the anterior pyramids of the medulla. It occurs, on the contrary, all the way down the spinal cord, the sensitive fibres crossing each other throughout its entire length. The proof of this is that after a section of one lateral half of the cord, while voluntary motion is destroyed in the parts below the injury on the same side, sensation is destroyed in the corresponding parts on the opposite side. In fact, after such an operation, sensation on the same side is considerably increased in intensity. This result is explained by the fact that an injury inflicted on any part of a nervous centre not infrequently exerts an indirect influence upon its neighboring parts. The gray matter of the spinal cord is the channel for the transmission of sensations, and its irritability is no doubt increased by such a section. The continuous decussation of the sensitive fibres of the cord was first demonstrated by Brown-Séquard, and I have myself verified his results.

What bearing have these facts on the study of diseased action? Yesterday I alluded to some of the early symptoms of spinal meningitis due to irritation of the anterior or posterior columns of the cord. After such an inflammation has proceeded far enough to cause softening of the cord, or pressure by effusion, we have as a consequence loss of both

motion and sensibility in the parts below. Strictly speaking, the term paralysis means only a loss of voluntary motion, while anæsthesia means the loss of ordinary sensation; although in common parlance we usually include both loss of motion and loss of sensibility under the single term paralysis.

There are two principal forms of paralysis. In the first kind the spinal cord is so altered in structure at some point, that all its functions as an organ of transmission are abolished below the seat of the disease. As a consequence, we have both paralysis of motion and anæsthesia, in all the lower region of the body. This sort of paralysis is known as *paraplegia*. It is almost always complete when it exists at all, and is due to injury or disease above the origin of the lumbar nerves. If the lesion is at a higher level, it also affects the muscles and skin of the abdomen and back, or even of the chest; and if higher still, the upper extremities are included in the paralysis. In point of fact, however, we seldom meet with a paralysis affecting all four limbs at once; because in that case the lesion is almost certain to interfere with the phrenic nerve, and thus become so rapidly fatal that there is not much opportunity for pathological or physiological observation.

The second form of paralysis is that confined to one lateral half of the body. There is a unilateral paralysis of both the upper and the lower extremity, and the median line is the limit for the loss of sensibility. A quarter of an inch from this line on the affected side the prick of a pin may not be felt at all, while at the same distance from the median line on the unparalyzed side sensation may be entirely normal. This kind of paralysis is known as *hemiplegia*, a name indicating that the disease affects one of two symmetrical halves. When paraplegia is present, we know that it must be due to some injury or affection of the spinal cord; and in hemiplegia it is also possible that the lesion may be situated in the cord, the trouble, whatever may be its nature, being confined to one lateral half of the organ. But since the horizontal dimensions of the cord are so small, it is improbable that any disease or mechanical injury should be entirely limited to one side. Even in physiological experiments, where the cord is exposed to view, it is difficult in making a hemi-section to avoid crossing in some degree the median line. Hemiplegia, therefore, from disease or injury of the cord must be quite rare. Practically, it is almost always due to some affection of the brain. The subject of paraplegia and hemiplegia is an exceedingly interesting one from both a physiological and a pathological point of view; but with these considerations I must dismiss it, leaving its more ample treatment to another department.

We have now finished the investigation of the spinal cord, regarded as a medium of communication between the brain and the external organs. Viewed in this light it is, in effect, a great nerve, by means of



which impressions are conveyed to and from the brain. But this is by no means its only function, nor, indeed, its most important one. The cord is composed of both gray and white matter, and is, therefore, a nerve centre as well as an organ of transmission. By virtue of the gray substance contained within it, it has the power of receiving and originating impressions, as well as of transmitting them. The brain is the seat of consciousness and volition; but without this organ it can be shown, experimentally, that the power of motion still remains, and that an impression made upon the integument is still capable of producing a reaction in the body and limbs through the agency of the spinal cord.

You see here three frogs, whose heads have been removed for periods of time ranging from three quarters of an hour to twelve hours. All consciousness has been destroyed by this mutilation, and yet the animals remain sitting in their natural attitude, very much as if consciousness were still present. Though the brain be absent, the animals are still capable of receiving impressions and of being affected by these impressions, as well as of executing movements in consequence of them, — all without any consciousness or active volition on their part. With a pair of forceps I now carefully lift one of the frogs, grasping it by the upper edge of the decapitated body. In the first place, you notice that the hind legs, which were before drawn up under the body in the natural position of a sitting frog, immediately hang downward when I lift the animal up. Why is this? Because there is now no hard surface in contact with the abdomen, to make an impression upon its sensitive integument. When I put the animal back upon the plate, you observe that the limbs are instantly drawn up again beneath the body. This is due to the contraction of their flexor muscles, excited by a sensitive impression on the cutaneous nerves. Now, holding the animal up again in the same manner as before, with both legs hanging loosely downward, I pinch one of the hind feet, when, you see, a contraction of the whole limb at once takes place; yet there is absolutely no consciousness or volition concerned in this movement. It is a sort of mechanical action, more simple in character than when the brain also takes part in its production. On withdrawing the stimulus, the movement ceases as instantaneously as it was excited.

In this case, we have evidently the action of a nervous centre. The function of a nervous centre is to receive impressions through the sensitive nerve fibres from the periphery, and to send out in return a stimulus through the motor fibres to the muscles. Voluntary motion requires a conscious mental operation, but involuntary movements are produced without it. What are the organs that react in this instance when I pinch the frog's foot? They are muscles of the animal's thigh. Yet I do not directly stimulate these muscles, but only touch the integument of the foot; and therefore there must be some active nervous communication between the sensitive integument and the contractile muscles.

This nervous action is of a threefold character: —

In the first place, it is not spontaneous, being excited only by the application of an external stimulus.

Secondly, it includes the action of two sets of nerve fibres, — the sensitive fibres distributed to the integument, and the motor fibres distributed to the muscles.

Thirdly, it is indirect or circuitous; that is, it does not pass directly from the integument to the muscles, but goes by some intermediate channel. In point of fact, the spinal cord is the means of communication. A sensitive impression is conveyed inward along the sensitive fibres, from the integument of the foot to the gray matter of the cord, and thence an impulse is transmitted outward through the motor fibres to the muscles of the thigh. It is only after an impression has been transmitted from without inward to the cord, and from within outward, — from the cord to the muscles, — that the muscular contraction is produced.

Let us next ascertain what will be the result of cutting off the communication between the spinal cord and the thigh. In order to do this I open the abdomen and uncover the lumbar nerves, which supply the lower extremities, as they issue from the spinal column in this region. You see these nerves exposed on both sides of the median line, and I now divide them on the left side, thus cutting off the nervous communications of that limb. When I hold up the animal again, both limbs hang down motionless, but on the right side pinching the foot causes contraction of the thigh as promptly as before, while on the left side, where the nerves have been cut, there is absolutely no reaction. I might apply any stimulus, such as fire, strong acids, or caustic alkalies, to this foot, and there would be no muscular action produced.

The last point to be investigated is the effect of destroying the spinal cord itself, while the sciatic nerve is left intact. I will therefore break up the substance of the cord with a steel needle introduced into the spinal canal. While this is being done, you notice active convulsive movements in the right limb, produced by the irritation of the nervous centre, but this ceases in a few seconds. I now pinch the integument of the feet as before, but there is no movement excited in either limb.

In this way we find that the active nervous centre in these cases is the spinal cord, and that the reflex action observed is due to it. The phenomena of reflex nervous action were first studied in the spinal cord, and are most familiar to us in connection with this organ. Reflex action is therefore sometimes spoken of as if it were exclusively an endowment of the spinal cord. But that is not really the case, and we have met with it first in connection with this organ simply because we have taken up the subject of the cord before that of the brain in our course. It is well to remember, however, that the reflex action of



the spinal cord is less complicated than that of the brain, or of most other parts of the nervous system. We see in the effect produced by pinching the integument of the foot of a decapitated frog the simplest form of reflex action, unaccompanied by any other nervous phenomena. We do not as yet know, and it seems to me doubtful whether we shall ever know, what is the exact nature of the change which takes place in the cells of the gray matter in reflex action. It would appear, however, that the gray matter is excited by the external sensitive stimulus to some special activity, from which the stimulus to muscular activity is in turn produced. In the next lecture I shall endeavor to complete our consideration of the functions of the spinal cord.

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### THE SO-CALLED "WEST END HORROR."<sup>1</sup>

BY F. A. HARRIS, M. D.

THE case of Elizabeth Harmon, the young girl who was supposed to have come to her death in consequence of continued and unusually severe treatment at the hands of her self-constituted guardian, is interesting from its exposition of the way physical appearances are apt to be misinterpreted by the laity, especially when viewed in the light of prejudice or in connection with overt acts.

The first reports of this case indicated a shocking barbarity on the part of the woman. The child was said to have been beaten often and unmercifully with a club until she was covered with bruises; it was stated that she was held under a faucet till nearly drowned, and then sent reeling across the room with a heavy blow of the fist; that the woman had cut off the child's fingers with a table-knife; that she had torn off an ear, and pinned it on with a hair-pin; that she pulled out her hair by the handful; that the child's body was covered with scars, the results of her ill treatment; and so on, *ad infinitum*. The child, when seen by me, was laid out in the bedroom of the guardian with neatness, though cheaply; there were numerous scars on the head and body, and she was much emaciated. The inspection and section showed the condition of things to be, in brief, as follows: general emaciation; scalp in many places destitute of hair, which in general was short, dry, brittle, and with the slightest force easily to be pulled out; over the occipital region and elsewhere to a smaller extent the scalp was infiltrated, purple in color, and on it here and there were crusts of dried pus and blood; in the frontal region were two fluctuating tumors, whose contents were a greenish pus. On the right arm, at the outer border of the biceps muscle, was an excavation clearly marked, as though made by a punch, extending to the muscle, and of the size of

<sup>1</sup> Reported to the Massachusetts Medico-Legal Society.

a nickel five-cent piece. On the back and chest were a very large number of brownish discolorations, with loss of substance, many of these spots being horse-shoe shaped; on the posterior surface of the right thigh and on the left buttock were shallow, widely extending abscesses, where a probe could be passed beneath the undermined skin to a varying distance of from one to three inches. Now these appearances, clearly the result of constitutional disease, easily conveyed to the minds of the neighbors the idea of scars from brutality.

Aside from these appearances there was a scar on the outer border of the right ear, in line with it, one inch long, shallow, and covered with court-plaster, the result of no very serious wound; there was a loss of substance of the left ear, the result of disease or injury a long time ago. A loss of a portion of the distal phalanx of the index finger of the right hand, a recent affair, and a red scar on the right side of the throat, as if caused by a burn, were noticed. The woman claimed that this was the result of a blister which she had applied for sore throat, and the scar certainly might have been made in that way. There were no marks of injury from beating or other violence aside from those mentioned, and we are left with a scratch on the ear and a lost end of a finger. The section showed double pneumonia, with pleurisy of right side, and an abscess, the contents of which exuded from the nostrils on turning the body, which abscess was deeply seated in the region of the pharynx close to the spinal column, opening into the œsophagus on a level with the thyroid cartilage, and burrowing down the posterior mediastinum one inch below the notch of the sternum. There were other pathological changes not necessary to mention here, as the above lesions were the evident cause of death.

Now, to secure a verdict of manslaughter it was necessary to connect the ill-usage or exposure to which the child was said to have been subjected with the immediate cause of death. It was in evidence that the child had been kept up to assist the woman at a late hour at night; that she was obliged to rise very early in the morning to build the fires; that she had poor and insufficient food; that she had been sent out in her bare feet to wash the front steps in November; that the guardian, on the child's manifesting a reluctance to bathe, held her head under the faucet for a short time; that the child had been heard to scream as if being beaten, and that the woman had struck her with a stick the size of a finger; yet the time of such exposure to cold could not be so closely connected with the acute disease of which the child died as to warrant a verdict of manslaughter. The facts undoubtedly were, as shown by the testimony of all parties, including the guardian herself, that this woman, naturally destitute of finer feeling, and of a cold, hard nature, had taken the child from the poor-house, thinking that she would be of assistance to her. She had at first treated her well, but



finding that she was suffering from a loathsome disease, and that she had acquired habits of uncleanness, had resorted to harsh measures to induce the child to improve in this respect; that she had not appreciated the effects of this disease upon the constitution of the child, and had required altogether too much work of her, and had not given her the nourishment she needed. That the child had been deprived of the good clothes with which she was provided when she came to this city may as fairly be attributed to the constant soiling they were exposed to from the condition of the child's body as to a desire to torture. This fact was also shown; that the woman summoned medical aid when she saw the child was seriously ill, and when advised to take her to the City Hospital did so, and that the girl was not left there was solely due to the disturbance which the patient herself made, crying and begging not to be taken away from her "mother." On the whole, I think the fair conclusion is that the evidence furnished by the medical examination was far more corroborative of the charge of assault, on which the woman was convicted and received sentence, than of the more weighty charge of manslaughter which was originally made.

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## RECENT PROGRESS IN OPHTHALMOLOGY.

BY O. F. WADSWORTH, M. D.

*Prevalence of Color-Blindness.* — The methods contrived by Donders and Holmgren for discovering color-blindness, and the results of their application, have shown very conclusively the prevalence of this defect. And the fact that the defect was found in a considerable proportion of men in whom it could hardly have been suspected — in railroad employees — illustrates also the great importance of examination of men thus employed in regard to this quality of their vision. There have, indeed, for more than twenty years been published from time to time the results of examination as to color-blindness of pretty large numbers of individuals; but, though the percentage of color-blindness given has been in some instances enormous, the methods of examination employed have been in general so unsatisfactory and contained in themselves so many possible sources of error that the common belief, even among those who might be supposed best qualified to judge, has been that the defect was on the whole very infrequent.

Donders<sup>1</sup> undertook his investigations to determine what requirements ought to be made of railroad employees as to their ability to distinguish signals. These signals consist in Holland, as here, chiefly of white, red, and green flags by day, red and green lanterns by night. His method is based on principles similar to those which govern the

<sup>1</sup> Archiv für Ophthalmologie, xxiii. 4.

usual tests for acuteness of vision, and it admits of a numerical statement of the degree of acuteness of perception of any color as compared with the norm.

The tests by reflected light are made by fastening round pieces of colored, unglazed paper, or similar pieces of colored cloth of 1, 2.5, or more mm. diameter, upon black velvet, and determining the distance at which the color can be correctly made out. In general, with good light, bright, saturated colors of one mm. diameter can be distinguished by the normal eye at a distance of five metres. But the amount of illumination exercises a much greater influence on the distance at which the color of a given piece of paper or cloth can be told than it does on the distance at which the ordinary black test-letters can be read. It is therefore advisable that the observer determine at the time of each examination the distance at which his own normal eye perceives the colors.

The tests for transmitted light are made in a dark room by means of colored glasses placed against openings of variable size in a screen and uniformly illuminated from behind. Here, too, the size of the opening and the distance at which the observer distinguishes the color give the grade of his color perception when compared with the achievement of a normal eye.

By this method some two thousand three hundred persons, the employees of the Holland railways, were examined, and at the same time the refraction and acuteness of vision were determined for each eye separately. One hundred and fifty-two individuals were found whose perception of red and green was much less than normal, and whose serviceability was therefore doubtful. These, for the sake of greater security, were reëxamined. Many of them asserted that their vision would prove better if tried in the open air. Fourteen of them were therefore selected and proved by the ordinary railway signals, both by daylight and at night, but this final test only confirmed the accuracy of the previous ones.

Holmgren's<sup>1</sup> method is easier and quicker of application, but does not allow of grading different degrees of color-blindness with so near approach to accuracy. It is, however, apparently all-sufficient for practical work, and it offers, what is in some respects an advantage, the possibility of dispensing entirely with the employment of names of colors. A large number of knots of worsted, including a variety of shades of all the principal colors, are mixed together upon a tray, and a knot of the color on which it is desired to experiment is selected and placed a little on one side. Then the individual to be examined is asked to pick out and lay by the side of this pattern all the knots which most nearly resemble it in color. The manner in which the task is performed affords a ready means of judging of the amount of perfection of the color-sense of the subject.

<sup>1</sup> *De la Cécité des Couleurs*, etc. Paris. Masson.



Holmgren thus tested two thousand two hundred and twenty men of an infantry regiment, and found sixty, or 2.7 per cent., affected; twenty-nine wholly, thirty-one incompletely blind for red, green, or violet (?). He makes also a third class in which "the sense of color is feeble," but this class was not included in the above numbers. Later, he examined all the employees of a railroad line, two hundred and twenty-six persons, men and women, and found thirteen men affected, six completely blind for green, and seven incompletely blind.

So much interest in the matter was awakened in Sweden that examination of the employees of all railroads in the kingdom was ordered, but at the time Holmgren's *brochure* was written, — February, 1877, — though the examination was quite or nearly completed, the returns had not all been made. A general examination of all the sailors in the Swedish navy had also been ordered.

*Causation of Glaucoma.* — At the last meeting of the Ophthalmological Society at Heidelberg, Pagenstecher<sup>1</sup> presented a number of specimens of glaucomatous eyes in illustration of the following conclusions which he had drawn from their anatomical investigation: (1.) There are forms of glaucoma in which there is no closure of the canal of Fontana. (2.) Closure or obliteration of the canal of Fontana does not of itself alone lead to glaucoma. (3.) In consequence of the glaucomatous process, provided it has lasted some time, iris and ciliary body undergo very considerable changes in far the greater number of cases, if not in all. The periphery of the iris is by the increased intraocular pressure brought into contact with the posterior surface of the iris and may become united to it; the iris thus assumes a position farther forward; the ciliary body and processes may be drawn forward, in a few cases also inward, or pressed backward, this being largely dependent on the position of the lens. Pagenstecher found in all his cases of acute glaucoma that the ciliary body was drawn forward, but does not assert that this is necessarily always the case.

But though it is demonstrated that glaucoma may arise without closure of the canal of Fontana, and that glaucoma need not occur when closure of this canal exists, the question remains whether the closure has any influence on the glaucomatous process. Pagenstecher believes that the closure does exert an influence, — that it acts to increase the intensity of the glaucomatous symptoms; that in many cases a closure of Fontana's canal by the peripheral portion of the iris, which is produced, often suddenly, by an increased intraocular pressure, blocking as it does the outflow of lymph, may in turn excite to the occurrence of a glaucomatous outbreak. The theory of Knies,<sup>2</sup> which regards the gluing of the periphery of the iris to the cornea as the consequence of a circumscribed inflammation of the tissues surrounding the canal of

<sup>1</sup> Bericht ueber die zehnte Versammlung der Ophthalmologischen Gesellschaft.

<sup>2</sup> See JOURNAL of May 10, 1877, page 551.

Schlemm, and looks upon this inflammation as the cause of the glaucomatous symptoms, is correct in certain cases. In most cases of glaucoma, however, the outer portion of the iris is primarily forced into contact with the cornea by increased intraocular pressure, and only at a later period does it become firmly attached.

In the discussion which followed Pagenstecher's communication, Still- ing stated that he had been led by consideration of the opinions expressed as to the excitation of glaucoma by stoppage of the anterior lymph channels to think that the posterior lymph channels had not received the attention they deserved. Leber's investigations had shown that the anterior chamber stood in no connection with the vitreous. It appeared, therefore, there must be a way of exit for the fluids circulating in the vitreous, and it seemed natural to regard the central canal of the vitreous as such. He had sought then to observe the effect of ligating the opticus and the lymph space between its sheaths, and by this means had succeeded, in rabbits, in causing a very greatly increased intraocular pressure. It appeared to him that in future two great groups of glaucoma must be distinguished: a glaucoma anticum, dependent on closure of the anterior lymph channels, the clinical character resembling that of iritis serosa or glaucoma with extended corneal cicatrices; and a glaucoma posticum, depending on closure of posterior lymph channels, those in the arachnoid sheath of the opticus, determined by some pathological process in their vicinity.

*The Cause of Disturbance of Vision in Contusions of the Globe.* — Berlin<sup>2</sup> refers again to a class of cases which he first described in 1873,<sup>3</sup> and examples of which he has repeatedly observed since. In these cases, following a blow on the eye, there is moderate decrease of vision without contraction of the field, episcleral congestion, and imperfect or irregular response of the iris to atropine. In most of the cases a grayish opacity of portions of the retina begins shortly after the injury, reaches its height in twenty-four to thirty-six hours, and has again disappeared in two to three days. In his former paper Berlin referred the disturbance of vision to irregular astigmatism of the lens, the indirect effect of the blow, and held that it was not at all dependent on the retinal opacity. These opinions were based on the facts that the same form and degree of disturbance of vision sometimes occurred without opacity of the retina, that the vision sometimes began to improve while the retinal opacity was still increasing, that the circumcorneal congestion and behavior of the iris under atropine showed irritation of the ciliary nerves, and that return of vision was coincident with disappearance of the symptoms of this irritation; partly, also, on the anatomical changes observed in the anterior parts of the eye when experiments were made on rabbits.

<sup>1</sup> Bericht ueber die 10te Versammlung der Ophthalmologischen Gesellschaft, 1877.

<sup>2</sup> Klinische Monatsblätter für Augenheilkunde, page 42.



The author is now confirmed in his idea that the disturbance of vision is not dependent on the retina, since once he has seen opacity of the retina appear without any such disturbance. In a number of his later cases a measurable amount of myopia, which disappeared on recovery, pointed to spasm of the ciliary muscle. In some of these cases a demonstrable astigmatism encouraged the belief that the contraction of the muscle was irregular, and that a part of the loss of vision was due to irregular astigmatism. The nature of the injury to the eye also would make it probable that all parts of the ciliary muscle would not be equally affected.

The extravasation of a small amount of blood between the iris and the anterior surface of the lens is shown by experiment to offer another possible cause of astigmatism in cases of injury, and the assumption of such an accident offers a reasonable explanation of the conditions observed in a case reported by Aub.

*Treatment of Paralysis of Ocular Muscles.* — For the treatment of paralyzes of the external ocular muscles Michel<sup>1</sup> recommends a new "orthopædic" method, based on the principle of passive motion. The conjunctiva is seized with forceps near the corneal edge and at a part corresponding to the insertion of the affected muscle; the globe is carried as far as possible in the direction in which the muscle should act, and then brought back again, and this to-and-fro movement kept up for some two minutes. The process is to be repeated daily. The pain is said to be little, the slight irritation of the conjunctiva, which follows, easily subdued by cold compresses. The immediate effect of such exercise is often astonishing, and though it afterward gradually diminishes, yet the progress is on the whole steady. The chief advantages of the method are elimination of the action of the antagonist muscle and shorter duration of treatment. By frequent passive approach of the two ends of the paralyzed muscle its power of contraction is believed to be increased, its nerves stimulated, and its nutrition preserved or increased.

Feuer<sup>2</sup> reports a case of oculo-motor paralysis of the right side successfully treated by subcutaneous injection of strychnia. The patient, a man of forty years, had acquired the paralysis seven years before, and been treated by electricity shortly after the access for some weeks without result. There was divergent strabismus and large pupil. Injections of strychnia, increasing from one twentieth to one seventh of a grain, were made for six weeks, and at the same time eserine was employed to contract the pupil. At the end of this time movement inward was nearly normal, movement upward and downward normal, vision improved from eighteen thirtieths to eighteen twentieths, and stereoscopic vision established.

<sup>1</sup> Klinische Monatsblätter für Augenheilkunde, xv. 373.

<sup>2</sup> Centralblatt für Augenheilkunde, February, 1878.

## REPORT OF THE PROCEEDINGS OF THE BOSTON SOCIETY OF MEDICAL SCIENCES.

JAMES J. PUTNAM, M. D., SECRETARY.

TUESDAY, SEPTEMBER 25, 1877. — DR. BLAKE showed a specimen of raw cotton, short staple uplands, very carefully washed, which he said was *admirably adapted for use as an absorbent* in delicate surgical operations. So readily will it absorb water that a ball of it rolled up tight in the fingers and thrown into a basin will sink instantly to the bottom, whereas a similar ball made of long staple cotton even though it has been washed with equal care will float for a long time. This cotton is sold by Dennison & Co. of Milk Street. A similar but less good variety is used by the Red Cross Society, prepared under the direction of Dr. von Brun.

In reply to Dr. Amory Dr. Blake said he supposed the absorbent power of the cotton to be due partly to the fact that the tubes of the fibres are thoroughly washed out, partly to the closeness with which the latter are felted together, the spaces between them acting as capillaries.

DR. JEFFRIES referred to an *observation which he had made while looking at the sunset* a few days before, which had been unusually brilliant, the colors being disposed in parallel stripes. He had found that he could shut out all the colors, one after another, but the red with especial ease, by reducing gradually the aperture of the lids.

TUESDAY, OCTOBER 16, 1877. — DR. GARLAND read a paper upon the *dynamic conditions at work within the thorax*, with special reference to the case of pleural exudations. It was pointed out that as the lungs are elastic bodies, placed on the stretch, and inclosed within relatively firm walls, against which they are held by atmospheric pressure, the effect of the introduction of fluid into the pleural cavity must be simply to allow them to contract to a certain extent; compression being entirely out of the question until the elasticity of the lungs shall have ceased to act, which does not take place until the chest contains a large amount of fluid.

Portions of the fluid are drawn, or more properly forced, above the level of the rest at certain points where the lung retracts more strongly than elsewhere, and it is thus that the curved line of flatness described two years ago by Dr. Ellis is produced. The heart is not pushed over towards the opposite side of the chest, as is commonly maintained, by the weight of the fluid, but is drawn over by the contraction of the opposite lung, the influence of which is usually counteracted by the contrary pull of its fellow. It was also pointed out that when the amount of the effusion passes a certain limit, the lowest (back) part of the diaphragm is the first to bulge, tipping the spleen forward and downward with it; and, further, that when air instead of fluid is introduced the condition of affairs varies in certain definite respects from that described. The mode of production of friction sound and other points were discussed.

The paper was illustrated by casts of cocoa-butter and other substances ob-



tained by injecting them while liquid into the chests of dogs, both living and recently killed, and by experiments with rubber balloons inclosed in glass flasks.

The paper has been recently published as a monograph entitled *Pneumodynamics*.

The discussion of the paper being in order, Dr. Garland said, in reply to Dr. Dwight, that no new point was claimed to have been brought out by these experiments regarding the mode of reabsorption of the exudation. It is probably absorbed in the same manner as that which is constantly being secreted by the pleura in health.<sup>1</sup>

In answer to Dr. Bowditch's question why, when the patient lies on his back, the fluid gravitates so little towards the dependent part of the chest, Dr. Garland showed, with the aid of the rubber balloon, etc., that the position of the fluid is determined very much more by the elastic forces at work in the lung than by its own weight, and that the shape of the lung is such that it contracts the most strongly from its base toward its root, whatever be the position of the patient. The weight of the fluid does, however, of course, modify the shape of the lung to some extent.

In answer to Dr. Wadsworth Dr. Garland said that the heart was displaced earlier in pneumothorax than in hydrothorax on account of the negative pressure produced by the water as compared with the air.

In reply to Dr. Edes Dr. Garland said that after the lower part of the lung had retracted so much that the lung as a whole no longer tended to contract more strongly upwards than to withdraw from the chest wall in other parts, the fluid would begin to collect between the lung and the chest wall at its upper part, but this would imply the existence of a considerable effusion.

In answer to Dr. Draper he said that the S curve of flatness retained its general form even though most of the fluid had been rapidly withdrawn.

Dr. T. B. CURTIS asked how soon, in pneumothorax, the lung may begin to be compressed by the air, as indicated by the bulging of the intercostal spaces.

Dr. GARLAND knew of no data from which to answer definitely, except that Rokitsansky has estimated that the lung may contract to one half of its volume.

In answer to Dr. Warren he said that he had already tried in one case the experiment of puncturing the chest with a canula attached to a tube opening under water.

In answer to Dr. Oliver he said that the lung contracts in the direction of the larger bronchi, and most strongly along its longest axis.

*Skin Pigment.* — Dr. BOWDITCH showed photographs illustrating a case of pretended sudden *disappearance and reappearance of pigment* in a negro, and read the following extract from a letter on the subject: —

"Mrs. Nelson was born a slave near Maysville, Ky., and could not give an exact account of age, dates, etc. She says she was black until an adult, at least, after which time, without any cause apparent to herself, she gradually became white, until nothing of the black remained except just about the eyes, as she says, like a pair of goggles.

<sup>1</sup> Vide experiments by Dybkowsky.

"Some years since she did a day's work in the hot sun, a thing to which she was wholly unaccustomed, and that night felt a pricking sensation, so that she rubbed her body with flour, and from this time the black began gradually to return, until she presented, as at present, her usual appearance. The white portion of the skin is lighter than that of many brunettes, while the blotches are the pure African shade. Her husband is black, and her daughter appears like a full-blooded negress."

DR. WHITE thought that this case should not go on record as authentic, unless supported by stronger evidence than that offered.

TUESDAY, NOVEMBER 20, 1877. — DR. EDES exhibited some *microscopic sections of the rabbit's kidney* to show the *action of the secreting epithelium* lining the convoluted tubes, as measured by its power to eliminate the sulphindigotate of soda when injected into the blood of the living animal, and also to show the changes produced by mercurial and phosphorous poisoning.

In the normal kidney, if the animal is killed within a short time, say one half or three fourths of an hour, after the injection, and the kidney immediately washed out with absolute alcohol, we find the epithelium of the convoluted tubes stained blue, the nuclei probably very deeply so, and in some places the calibre of the tube filled with masses of the precipitated pigment. The Malpighian corpuscles are unstained, although surrounded by blue tubes, and the straight tubes contain little or no pigment.

If death takes place at a later period, so that more time is given for the secretion to take place and the indigo to be washed downward, the indigo is found densely packed in the interior of the straight tubes, the urine also becoming deep blue.

If a ureter is tied the backward pressure of the urine prevents the descent of fluid from the Malpighian corpuscles, so that the pigment, although secreted by the epithelium, is not washed away, but remains for the most part in the interior of the convoluted tubes in the cortical portion of the kidney.

In the kidneys of animals poisoned with mercury the epithelium of the straight tubes becomes dark, irregular, and loosened from its place; calcareous degeneration takes place at the outer ends of the straight tubes. Such a kidney as this, although the visible alteration of the true secreting epithelium is but slight, secretes but very little of the indigo.

During life the urine from an animal thus poisoned is clear and acid (in the rabbit abnormal), and contains albumen and casts.

In a rabbit poisoned with phosphorus we find the calcareous degeneration, but also the well-known fatty degeneration, of both sets of tubes, except the lower portion of the large collecting tubes, in an extreme degree. The convoluted tubes may be almost completely cleared by the processes employed for making the section transparent and then appear normal. They are, however, as shown by the indigo test, able to secrete only a very small amount of pigment.

The urine contains large numbers of dark, granular casts, and is occasionally, though not invariably, albuminous.

A kidney, the vein of which was obstructed, showed casts in the tubes and evidences of inability to secrete indigo.



The first set of experiments, which are repetitions of some of those of Heidenbain,<sup>1</sup> are supposed to favor Bowman's theory of the secretion of the urine, namely, that the Malpighian corpuscles act merely as water filters, while the solid constituents (supposing them to be represented by the indigo) pass out by a process of true secretion through the epithelium of the convoluted tubes. The others were intended to determine how far an epithelial cell, which had undergone degeneration, but which still retained its shape and place so as to appear nearly normal under the action of solvents which clear up fat, was capable of secretion. It would seem from them that a cell may be almost destitute of functional activity and yet retain its place and form, and, with exception of more (phosphorus poisoning) or less (mercurial poisoning) granular degeneration, its usual appearance.

DR. DWIGHT asked why the nuclei in the cells of the convoluted tubes were stained by the indigo, while those of the straight tubes were not.

DR. EDES thought that this corresponded to the functional differences between the cells, but said that the nuclei in the straight tubes occasionally became colored to a less extent.

DR. BOWDITCH asked if those observations disproved the filtration theory of Ludwig, or if, rather, it might not be that the indigo as it filters through the Malpighian bodies fails to be deposited there because it is so dilute, and that the nuclei of the convoluted tubes takes up the coloring matter more readily because it is presented to them in a more concentrated form, after a portion of the water has been reabsorbed by the cells.

In response to this and further questions from Drs. Bowditch and Garland, DR. EDES said that these experiments did not absolutely disprove the theory of Ludwig, but that the staining is probably not due, however, to simple precipitation of the coloring matter as it passes through the cells, since in that case we should expect the cells to be colored as deeply as their nuclei, and also because a *gradual* concentration of the urine would not account for the marked contrast between the almost absolute freedom from color in the Malpighian tufts and the deep staining of the nuclei just below them.

DR. WEBBER suggested that if this salt of indigo can be given with perfect impunity to health, the idea might be entertained of using it to stain the kidneys of moribund patients, especially those with chronic nephritis, with a view to future examination.

In reply to Dr. Amory, DR. EDES said that the other organs were not stained by any means so deeply as the kidneys, the general hue of the tissue being a light blue, so slight as not to appear under the microscope, while the kidneys were almost black, like a couple of ripe plums.

*Perception of Color.* — MR. G. S. HALL read a paper upon this subject, of which the following is an abstract: —

The analogies which, according to the undulatory theory, we should expect might exist between the ultimate mechanical apparatus of the ear and the eye have never been established. If we take into account the greater minuteness of the waves of the light ether, the eye, so far as explored, responds to external stimuli with far less special mechanical adaptation than the ear. The focal

<sup>1</sup> Archiv für die gesammte Physiologie, Bd. ix.

distance between violet and red is six times the length of the longest cone, and every object is surrounded with diffractive fringes ten times the diameter of the base of one cone. If the ultimate fibres of the auditory nerve had been supposed to be directly sensitive only to the vibrations of the fluid of the labyrinth, and if the functions of the ductus cochlearis were undiscovered, the explanation of the sensation of hearing would be scarcely more satisfactory or complete than that of color-perception, according to the Young-Helmholtz theory, now is.

It is well known that if two parallel fibres of spider's web be brought very near together upon white ground the intermediate white line has a beaded, zigzag outline, if closely examined with one eye, due to the arrangement of the cones, like the cells in a honey-comb. Now, if the ultimate percipient elements be cones of three varieties of sensibility, one third sensitive to green, one third to red, etc., it follows that with green or red lines, on black ground, the beaded irregularity must be much greater than if all the cones were excited, as they would be by white lines of light. There is, however, no difference in the size of these curves, nor in the difficulty of recognizing them, whether the lines are white or green, red or violet. Hence if the cause assigned to this appearance be the true one it would seem that the hypothesis of three sets of cones must be abandoned.

If, then, we really reach the ultimate possible limit of surface perception so far as even to distinguish the action of separate cones, but yet do not approach any analysis of white light into its elementary colors, the only remaining hypothesis is that they are distinguished in different plains of the retina.

The correspondence between the diameters of the disks of the external cone and the wave lengths of light along the red end of the spectrum suggested sympathetic vibration. A series of problems in geometrical optics at once presented themselves. Could any single refractive surface so shorten the long interval of .434 mm. between red and violet rays, caused by the achromatism of the lens and humors, that each color could be focused upon its appropriate disk? Although the equations are not yet all solved,—yet they are perfectly solvable,—here, at least, there is no difficulty, although it may be a question whether any focusing whatever is required.

Artificial and the spectral colors were observed, singly and variously combined, and it was found that green and green-blue gave a momentary positive after-image, almost perfectly white, even when the intensity of the middle of the spectrum was reduced to the smallest perceivable limit. Now, if a series of disks on the end of the cones, like rattles on the tail of a snake, and arranged in spectral order, red being outermost, are agitated near the middle (green), the agitation might be communicated to either end of the cone spectrum, producing the impression of an admixture of white light, which the excitation of either end would not do; and thus the whiteness of the positive after-image might be explained.

Again, how, on the hypothesis of three sets of cones, shall we explain the fact that pressure, either mechanically applied or caused by retinal congestion, often causes pure-colored as well as white images?

If, however, the red disks are at the outer end of the cones, among the coarse



pigment cells of the choroid, and especially if the cone lengthens and shortens with every irritation, as has lately been argued, we should expect that the ends of the cones would be often injured or undeveloped, as indeed the microscopist sometimes finds them. So, too, color-blindness at the other end of the spectrum may have a variety of mechanical causes. The color-blindness of the equatorial tracts of the retina may be explained by a shortening or inclination of the cones. So, too, the curve, in the mixture chart, at green, has never been explained. Why does the mixture of any two tones of green cause such exceptional decrease in saturation, unless on account of the instability which the central position of the green disks would give them, and unless, in accordance with the law of acoustic sensibility in sonorous bodies, the green disks give sympathetic response to a greater variety of wave lengths than the red or violet, which we should expect from the abruptness with which the impression of green fades out after the stimulus ceases?

Passing to violet, it is argued that the retina must be directly sensitive to its own fluorescence. If it be in the anterior layers of the retina, why is it not perceived as well as the retinal vessels? If, on the other hand, the light green, which has been observed in a fresh retina under the stimulation of ultra violet rays, is due to a complementary activity of the green disks, then, of course, the mind perceives it directly in the lavender gray, which may seen by a sensitive eye among the most refrangible rays.

The discussion on Mr. Hall's paper being in order, DR. AMORY said that the subject interested him greatly, especially in view of certain observations which he had made showing the varying action of lights of different colors in photographing upon plates made sensitive in different ways.

DRS. WADSWORTH and JEFFRIES expressed their regret that they had not had an opportunity to study the paper more at length before discussing it.

In reply to a question from Dr. Jeffries, whether in using colored papers in his experiments he had taken into consideration that they are not pure spectral colors, MR. HALL said that he had not done so at first, but that he had afterwards; also, that he had not considered the question as to the compressibility or incompressibility of the substance between the disks.

In reply to Dr. Wadsworth, Mr. Hall said that in disease when the rods and cones were destroyed he had supposed that perception of distinctly colored light was lost.

DR. WEBBER showed a microscopic preparation of a *nerve cell from the spinal cord*, which the most careful examination with high powers, by himself and others, had shown to have *two distinct nuclei*. It came from one of the anterior cornu near its base, towards the anterior commissure, a part where the cells are usually few in number and of medium size. It was stated to be an almost unique specimen.

DR. BOLLES showed one of the *long bones from the leg of a horse*, presenting a *spiral fracture* due to direct injury, the horse having been kicked by another just above the heel.

The horse had been able to walk home, when, about ten days after the accident, having been doing apparently well, a slight wrench caused complete fracture. The original spiral line could be distinctly seen, occupying one and one

eighth circumference of the bone. He said that Dr. Stickney had seen a case where the same thing had occurred, the secondary fracture, compelling the killing of the animal, taking place thirteen weeks after the original injury.

DR. WARREN referred at some length to Dr. Hodges' observations on this point, saying that he had never known this fracture to occur in man from direct violence, but always from some wrench or twist, and that they usually lead to amputation.

DR. BOLLES did not think it impossible that a wrench was, strictly speaking, the nature of the injury in this case. Supposing both horses to have been kicking at once, and considering the direction in which the force must have been applied, it is easy to conceive that the leg should have been virtually twisted by the blow and the muscular exertion of the injured animal combined.

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### A NEW SYSTEM OF MEDICINE.<sup>1</sup>

THIS highly original work invites slight attention. Had it been published fifty years or more ago we should not have been surprised at its visionary modes of expression, which remind us somewhat of the writings of Descartes, VanHelmont, and others. That such a work is published now, when medical literature and knowledge teems with physiological and pathological facts, will occasion a fair amount of surprise if not discouragement at the inconsiderate mode in which Dr. Bose lays these all aside. The proof of the correctness of our criticism may be judged by the following quotations, which are a fair exhibition of the style of the work.

After describing what he means by cognizance and recognizance, which Dr. Bose apparently considers antagonistic, — for instance, “Every disease is a *cognizance* struggling with nature, that is *recognizance*,” — he says in regard to vision (page 118): “When an object is painted on the retina . . . we cannot see until the mind and the rational image (?) come to a sort of collision through their impressions. In other words, an accordance of the mind to the discordance of the body to be seen is an essential condition of the act of seeing. The image formed in the eye is said to be naturally inverted, and that we see it erect by reason of habit. This explanation appears to us to be as fanciful as we believe it untrue.” Again, in regard to smelling (page 120): “Females have naturally more acute powers of smell than males. This arises partly from the greater nervousness (?) of their delicate make, and partly from their constrained intercourse with society and nature.”

(Page 129), “The feeling of hunger proceeds from the want of liquor sanguinis (*sic*) in the whole body, first made known to the ganglia, and afterward to the brain, through the medium of the afferent gastric and other nerves.” We abstain from further quotations, not only on account of the danger of exciting ridicule, but also because it is discouraging to see an author so blinded by his own fantasies that we doubt whether he really means what he writes. We cannot see what especial help the practitioner of medicine will gain from reading this curious literary production.

<sup>1</sup> *A New System of Medicine entitled Recognizant Medicine, etc.* By BHOLANOTH BOSE. M. D. Lond. etc., H. M. Indian Medical service. London: J. & A. Churchill. 1877.



RATIONAL THERAPEUTICS.<sup>1</sup>

It is a matter of surprise that Dr. Bose can waste his energy in writing a work of this nature. We simply reproduce the table of contents, and call attention to the peculiarity of the words coined by the author:—

“Cell, Fibre, or Primitive Organic Force. Remedies thereof, namely, General or Cell Tonics. Bitubulo-Cell, or Organic Medicines. Tritubulo-Cell Medicines. Pertubulo-Cell, or Mental or Intellectual Medicines.”

We are not surprised that the Indian Medical office took no notice of Dr. Bose's suggestion that his special report on the virtues of bhaunt, a new drug, should be published, if that report were written in the same style as the two works which have been submitted to our criticism.

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 THE POLLUTION OF STREAMS.

THE joint committee of our legislature on water supply and drainage have proposed a bill giving to the State Board of Health the general supervision of all rivers, streams, or ponds in the commonwealth which are or shall be used by any city or town as sources of water supply, together with the waters feeding the same. Individuals and corporations, *public or private*, are prohibited from discharging into any pond or stream (within fifteen miles above the source of supply) any human excrement, sewage, drainage, refuse, or polluting matter of such quality and amount as shall, either by itself or in connection with other matter, corrupt or impair the quality of the water for domestic use, or render it deleterious to health. The board of health may order any person or persons, or corporation, *public or private*, to cease and desist from the pollution of such waters, or to purify the polluting substance, under the general provisions which now apply with regard to noxious and offensive trades; that is, an application must be made to the board to exercise the power conferred upon them, all parties concerned must be notified, and a hearing must be held. It is a noticeable fact that cities and towns may be proceeded against under this bill, and that there is no standard of pollution defined, the board of health being judges as regards that point. The Concord, Connecticut, and Merrimac rivers are excepted from the restrictions imposed upon other streams.

The English Pollution of Streams Act went into operation last August, one year after its enactment. It prohibits<sup>2</sup> the pollution or obstruction of *all streams*: (1) by the solid refuse of any manufactory, manufacturing process, or quarry, or any rubbish or cinders, or any other waste, or any putrid solid matter; (2) by solid or liquid sewage matter; (3) by any poisonous, noxious, or polluting liquid from any factory or manufacturing process; or (4) by the solid matter from any mine in such quantities as prejudicially to interfere with the due flow of the stream, or by any poisonous, noxious, or polluting solid or liquid matter from any mine, other than water in the same condition as drained or raised from the mine. In determining whether or not an offense has been committed,

<sup>1</sup> *Principles of Rational Therapeutics*. By BHOLANOTH BOSE, M. D. Lond, etc. London: J. & A. Churchill. 1877.

<sup>2</sup> From a circular issued by the local government board, August 6, 1877.

a marked distinction is drawn between the cases in which the sewage is conveyed into the stream along channels the construction of which had not been commenced at the time of the passing of the act, and those in which it is so conveyed along channels then already existing or in process of construction. In the former cases it will be an offense against the act for any sanitary authority to cause or permit the discharge into *any stream* of any solid or liquid sewage matter; in the latter an offense will not be deemed to have been committed if it can be shown that the best practicable and available means are used to render the sewage harmless. Moreover, in this class of cases the important power has been given to the local government board of suspending, in any particular instance, for a limited period, the operation of this portion of the act beyond the twelve months allowed by the statute, provided that they are satisfied, after local inquiry, that further time ought to be granted to the sanitary authority for the purpose of enabling them to adopt the best practicable and available means for rendering the sewage harmless. Mr. Robert Rawlinson, C. B., and Dr. Angus Smith, F. R. S., have been appointed inspectors under the act, and they are authorized to grant certificates to the effect that the means used, in any particular case, for rendering harmless any sewage or poisonous, noxious, or polluting solid or liquid matter discharged into any stream are the best or only practicable or available means under the circumstances.

It may be noticed that the provisions of the English bill are very stringent indeed; if they can be enforced in a country which is almost controlled, in some points of legislation, by manufacturers, it is certain that no great harm can thereby come to so important an interest. The vigorous opposition with which they met all efforts to cleanse the rivers of Great Britain, ten years ago, has very largely disappeared under the influence of more knowledge, on their part, of all the circumstances of the case, and especially of the fact that it is really for their benefit to have pure streams, as well as for the advantage of people whose health is likely to be influenced by the filth-laden water or the poisoned air.

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## THE JOURNAL OF PHYSIOLOGY.

THE first number of this new periodical, which is now before us, presents in the variety and interest of its articles, an ample fulfillment of the promises made in the prospectus. This journal owes its origin to a conviction on the part of English physiologists that while morphology and physiology are very closely allied sciences, representing in fact merely two methods by which biological questions may be approached, yet practically the problems of the morphologist and the physiologist are still and must for a long time continue to be so distinct that separate organs of publication are essential to the best progress in these two branches of study.

The conductors of the journal welcome to its pages contributions covering a very wide range of subjects. Investigations in toxicology, pathology, and histology, if carried on by physiological methods, may here be appropriately presented. In the words of the prospectus, "A physiological truth remains



a physiological truth, and should therefore be recorded in a physiological journal, whether it be discovered by the help of a microscope, a test tube, or a galvanic battery."

The journal is edited by Prof. Michael Foster, of Trinity College, Cambridge, assisted in England by Professors Gamgee, Rutherford, and Sanderson, and in America by Professors Bowditch and Martin. It seems, therefore, likely to become the recognized organ of English-speaking physiologists.

It is to be published by Messrs. Macmillan as nearly simultaneously as possible in England and America.

This experiment of uniting medical sciences of both sides of the Atlantic in a medical periodical is, we believe, an original one, and we trust will be attended with the most gratifying results.

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### MEDICAL NOTES.

—The *Journal de Médecine et de Chirurgie pratiques* for March, 1878, reports that M. Peter in some cases of pulmonary phthisis has found the withdrawal of blood by means of wet cups or of leeches to be advantageous. The first effect of such a loss of blood was to cause pain to cease, then to make respiration more free, to promote sleep, and to improve the general condition of the patient. At the same time the local signs improved. The remedy is not suitable for all cases. It is necessary that the patient should be able to endure, without serious inconvenience, a moderate loss of blood, which will be easily compensated by the benefit which he will derive in point of his general health.

—M. Besnier in the same journal recommends as an application in acne of the face a preparation composed of sulphur suspended in an equal amount of camphorated alcohol. It is to be applied every night by means of a brush which has been dipped in the sulphur at the bottom of the flask. The alcohol evaporates and leaves a coating of sulphur which can be washed off in the morning.

—Among the numerous preparations which, in the shape of material for surgical dressings, have been placed in the market of late years we have seen no such neatly prepared article as Dennison's absorbent cotton. It is simply perfectly pure cotton, having been carefully and thoroughly cleansed from oil, resin, and all extraneous matter. When placed in water it sinks rapidly to the bottom of the vessel, and when applied to a wound it quickly absorbs all discharges. For dressing sinuses, as in fistula in ano, or in uterine applications or examinations it seems to be much preferable to ordinary cotton or lint. It has the advantage of being a very clean and attractive-looking article, and might prove valuable in antiseptic surgery.

—Prof. Frank H. Hamilton has been suggested as a proper person to be health officer to the port of New York. The *Louisville Medical News* remarks: "We wish him every success, but cannot help thinking that if he has made no further progress in a knowledge of hygiene than he has in the treatment of certain fractures, he will be found some time endeavoring to frighten off cholera with Chinese gongs."

— Prof. W. H. Thompson says that either capsicum, ginger, or other aromatics combined with quinia will diminish the amount required of the latter.

— Kunze treats epilepsy with curare. He uses a solution of seven grains of curare in seventy-five minims of water, adding two drops of muriatic acid. At intervals of about a week he injects hypodermically eight drops of this solution, and in cases in which convulsions had occurred for several years he obtained a complete cure after eight or ten injections.

— Professor von Wohl has been appointed to the chair in Dorpat recently vacated by Professor Bergmann, who has taken a position at Wurzburg. Dr. Orth, Virchow's assistant in the Pathological Institute in Berlin, has been chosen Ponfick's successor as professor in ordinary in Göttingen. Ponfick has been called to Breslau.

— Dr. Lieven, in the Petersburg *Med. Woch.*, says that when symptoms announce the coming of a furuncle the skin over its locality should be scraped with a small knife, so that a drop or two of blood may be pressed through the epidermis. After this procedure no boil will be developed. "This result," says the *Medical Times and Gazette*, "would seem to show that the affection originates in the uppermost layer of the corium, and perhaps in the capillaries of the papillæ, and not, as hitherto received, in the subcutaneous connective tissues with succeeding necrosis of the corium and epidermis."

— An interesting allusion to Dr. Beketow, the Russian lithotomist, may be found in the *Medical Examiner* for February 21st. It seems that Beketow has operated for stone two hundred and seventy-five times with but twelve deaths, a mortality of only 4.36. The lateral operation was used in the majority of these cases.

— According to the *Medical Examiner*, a woman in Coburg had injured her skin, and had allowed her colored stocking to remain in contact with the wound. Symptoms of poisoning appeared, and the woman died ten days later. In the opinion of the medical attendants the symptoms were due to absorption of aniline from the stocking.

— Virchow's recent address on the Freedom of Science in the Modern State, before the Conference of the German Association of Naturalists and Physicians, "has been hailed everywhere by thoughtful men as a salutary counterblast to the wild utterances and vain imaginings of some expositors of modern science, public opinion has been sobered, and scientific men feel themselves once more set free from the tyranny of dogmatism." The *Lancet*, in which we find the above, also gives a portion of Virchow's object in making the address, namely: "To utter an earnest protest against the attempts that are made to proclaim the problems of research as actual facts, the opinions of scientists as established science, and thereby set in a false light before the eyes of the less informed masses not merely the methods of science, but also its whole position in regard to the intellectual life of men and nations." The quotation is from Virchow's preface to the published address.

— In the London *Lancet* it is announced that the Spanish government has ordered the collection of statistics of leprosy. In a medical report, presented to the governor of Valentia, it is stated that that province contains forty-five lepers; but it appears to be difficult to obtain precise information, the disease being concealed or disguised under a variety of names.



## LETTER FROM PHILADELPHIA.

MR. EDITOR, — Commencement week is over, and our medical tributaries of the Pierian spring, having experienced their annual overflow, are quietly settling down again into their accustomed channels, and the tide is already sensibly flowing in the spring course, in the direction of the term of 1878-79. The graduation exercises passed off this year very much as usual, the Commencement of the Jefferson Medical College being held at noon on March 12th, and that of the University of Pennsylvania on the 15th, the former graduating two hundred and three, the latter one hundred and twenty-seven, students. Both were held, as has been the custom for the last ten or twelve years, at our Academy of Music, which, although one of the largest buildings of the kind in the country, is on these occasions always filled with a most select and appreciative audience, whose sympathy and interest are well shown by the profusion of floral offerings and the frequent applause. The valedictory addresses were delivered by Prof. Ellerslie Wallace and by Prof. Wm. Goodell.

As a means to an end, the arrangement of these exercises is admirably adapted to bring into appropriate prominence the æsthetic features of the entertainment. A fine orchestral concert is given during the hour preceding the appearance of the students and the commencement of the collegiate ceremonies proper, and also during the pauses between the different stages of the proceedings.

Prof. D. S. Connor, of Cincinnati, the orator of the Alumni Association of Jefferson College this year, was honored with a complimentary dinner by the association on the 12th, at which Professor Gross presided with his accustomed genial grace and spirit. The banquet was very select and enjoyable, the proceedings being enlivened by addresses from Professor Gross, the president of the association, Professors Connor, R. E. Rodgers, and Wm. H. Pancoast, and Drs. Hewson, Brinton, and others.

The University of Pennsylvania, following Harvard, has added a dental department recently to the institution, Professors Edwin S. Darby and C. J. Essig having withdrawn from the Pennsylvania College of Dental Surgery to accept the chairs of dental pathology and mechanical dentistry, respectively, at the University. Professor Tyson has also withdrawn from the Dental College, and the trustees have chosen Messrs. Pierce, Wilbur F. Litch, and Henry C. Chapman, M. D., to fill these vacancies. It is said that the prospective dental students of the University are expected to attend the lectures of the regular medical course in anatomy, physiology, pathology, and materia medica, and also those of Professors Darby and Essig, just referred to. This will make the third first-class dental school in Philadelphia, and its prospects are pronounced to be very promising.

A recent murder in this locality is destined to be *un cas célèbre* in insurance circles. An elderly music-typographer of this city, named John M. Armstrong, was induced to go to Camden on the evening of January 23d of this year, and there was brutally murdered in the streets by means of a hatchet and hammer that were afterward found on the pavement. As the initials cut upon the

handles of the tools corresponded with those of a Mr. Davis living in the neighborhood, who unfortunately owed Armstrong money, he was promptly secured. The detectives subsequently arrested a man named Benjamin Hunter, of Philadelphia, who it was found held insurance policies on the life of Armstrong to the amount of \$26,000, and who had been instrumental in enticing him to Camden on the fatal night. It was also ascertained that he had an accomplice, and upon arresting his former apprentice, Thomas Grahame, twenty-six years of age, a man of family but of dissolute habits, the latter yesterday made an explicit confession, which apparently explains every detail of the crime. Grahame states that Hunter came to him in December last, and said that Armstrong must be killed, and offered to pay him five hundred dollars for his murder, the plan being so arranged that the deed should be committed while Hunter was away from the city. When he subsequently returned and found that Grahame had failed him, he appeared to lose his caution, and now took a more prominent part in the proceeding. It is said that he even accompanied his victim on the night in question, having arranged that Grahame should waylay them at a certain place, and having also provided him with the weapon cut with the appropriate initials. Grahame says that he struck the man with the hammer and then ran away, and Hunter afterward finished him. They both returned to the city and continued their daily duties, satisfied that the law would wreak its vengeance upon Davis, an innocent man. Altogether this is one of the most diabolical and cold-blooded plots that could be imagined, and in some features recalls the paid bravo of the Middle Ages. Hunter has been a successful business man, and is now said to own \$50,000, although the only apparent motive for the deed was the desire for gain. Armstrong owed him some \$5000 on a former business transaction, which furnished him the excuse for insuring his life to such an unusual amount. His victim had also been his opposite neighbor for a number of years, and had taught his children music, their families being intimate.

To turn from these repulsive details to a more congenial theme, we may say that, among the many applications of the new telephone, its possible utility in auscultation, especially for class demonstration of disorders of the chest, has doubtless occurred to many clinical teachers. Professor DaCosta made a preliminary trial last month, at the Pennsylvania Hospital, of a Bell's telephone constructed by Dr. W. B. Hopkins, a former resident. It was tested by cases of cardiac murmurs and different varieties of respiration, and while the results obtained were not fully satisfactory, it was believed to be demonstrated that a slight modification in the construction of the instrument, enabling it to respond to more delicate impulses, would fit it for the purpose, and make it an almost indispensable adjunct to the clinical amphitheatre.

Professor DaCosta has been successfully treating a case of chlorosis and irritable stomach with hypodermic injections of dialyzed iron, with excellent effect. He urges its trial in pernicious anæmia, gastric ulcer, spanæmia from hæmorrhage or other causes, not to take the place of the ordinary method of administration, but usually to supplement it, except in those instances where it is impossible to give iron by the mouth.<sup>1</sup>

<sup>1</sup> See page 370 of the current volume of the JOURNAL.



For a full report of this case and the clinical lecture upon the subject the reader is referred to the original in the *Philadelphia Medical and Surgical Reporter* for March 16, 1878, page 209.

We are reluctantly compelled to chronicle another death from chloroform, administered for dental purposes, by Dr. Winslow, in this city on the 20th inst. The lady, Mrs. Wm. H. Neely, thirty-four years of age, from Montgomery County, Pa., came to Philadelphia for the purpose of having teeth extracted. Having been for some time in delicate health, she was afraid to take chloroform, but upon the dentist's assuring her that there was no danger she finally consented. He says that he only gave it for a minute or so; he then became frightened and sent out for a neighboring physician, who pronounced the lady to be dead. As the newspaper report states that she died in the chair, the chloroform was probably administered in the sitting posture. At the post-mortem examination a fatty heart was discovered. It is stated that the coroner's physician does not attach any blame to Dr. Winslow! Let it be hoped that the coroner's jury will not piously (or blasphemously) attribute the result to Divine Providence, and bring in a verdict of "death from natural causes" or "misadventure;" and thus enable dentists to continue, as heretofore, to give chloroform in their business, without any knowledge of the state of the heart or due regard for the posture of the patient. Innocent people, of course, will continue to die, but if they desire to be chloroformed, can the dentist be held accountable for any "accidents," at least so long as our coroner's juries are willing fully to exonerate him?

*Later.* The following is the very just and satisfactory verdict of the coroner's jury:—

"The jury find that Elizabeth Neely came to her death March 20, 1878, at No. 224 North Tenth Street, by chloroform administered by H. G. Winslow, M. D., and we find the said Dr. Winslow guilty of criminal ignorance in administering so powerful a remedy, not having made any examination of his patient."

Winslow was really a graduate in medicine, and five out of the six jurymen were also regular graduates.

Before closing, I would call your attention to two paragraphs which I cut from our *Evening Telegraph* of the 30th ult. The first is in regard to the administration of chloroform by dentists, is the closing paragraph of the presentment of the grand jury to the court for the month of March, and is in reference to the case reported in my last letter. It is likewise the expression of a non-professional opinion. "They further submit that the every-day and familiar use of anæsthetics, particularly of chloroform, is reprehensible and dangerous in the highest degree. The recent fatal termination of the administration of chloroform in a dentist's office calls for more than passing notice. The rapidity and completeness with which this drug produces anæsthesia bring it into general use, although the transition from sleep to death is so imperceptible that a moment's inattention on the part of the administrator may prove fatal. It is recommended that the use of chloroform at least be restricted by law to those cases where a practicing physician is called to the aid of the administrator, who may be thus enabled to clear himself from a charge of carelessness and incompetence, if not of murder."

Dr. Wm. B. Atkinson announces that the work that he has been for some-time editing, entitled *The Physicians and Surgeons of the United States*, in one royal octavo volume, is finally completed, and is now being delivered to subscribers. It contains short sketches, principally autobiographies of about seven hundred of the prominent living medical men of this country, and one hundred and fifty full-page portraits on steel. It constitutes a valuable contribution to contemporaneous medical history, and will probably meet with a flattering reception.

A number of our leading physicians have recently memorialized city councils on the subject of our drainage system, which is confessedly inadequate and imperfect, and which is considered to be connected directly with our recent outbreak of scarlet fever and diphtheria. What effect this may ultimately have it is impossible to predicate, but we are not so sanguine as to anticipate any radical changes for some time to come.

PHILADELPHIA, March 22, 1878.

#### COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending March 30, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean of ten Years, '68-'77.
New York.	1,093,171	530	25.21	24.32	28.71
Philadelphia.	876,118	313	18.58	18.80	21.54
Brooklyn.	549,438			21.51	25.50
Chicago.	460,000	114	12.89	17.83	22.39
Boston.	375,476	143	19.80	20.10	24.34
Providence.	100,000	36	18.72	18.81	19.20
Lowell.	55,798	21	19.62	19.09	22.50
Worcester.	54,937	18	17.05	14.07	22.30
Cambridge.	53,547	19	18.44	18.69	20.83
Fall River.	53,207	14	13.68	21.35	24.96
Lynn.	35,528	16	23.42	20.42	19.67
Springfield.	33,981	8	12.25	16.04	19.77
Salem.	27,140	8	15.33	20.28	21.15

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — At a meeting of this society, to be held on Monday evening, April 15th, at eight o'clock, at its rooms, 36 Temple Place, Dr. F. C. Shattuck will read a paper on *An Outbreak of Diphtheria and Erysipelas in a Small Hospital*.

MR. EDITOR, — In your *JOURNAL* for March 21, 1878, page 383, I notice among the *Notes of Practice and Peculiarities of Practice from Hospital of the University of Pennsylvania* a prescription for pills for amenorrhœa as something new. This prescription is the same as given in Niemeyer's *Text-Book of Practical Medicine*, and has been used by the physicians in this vicinity for quite a number of years with excellent success.

I am, sir, very truly yours,

E. H. PETTENGILL.

SAXTON'S RIVER, VT.

DR. GEORGE M. BEARD, of New York, is desirous to obtain facts relating to the symptoms and history of "writer's cramp." He has prepared a circular containing a list of questions, which will be forwarded on application by those who desire to afford him information on this subject.



# THE BOSTON MEDICAL AND SURGICAL JOURNAL.

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## LECTURES.

### ON THE PHYSIOLOGY OF THE SPINAL CORD.

DELIVERED AT THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK,  
BY PROF. JOHN C. DALTON.

[REPORTED BY P. BRYNBERG PORTER, M. D.]

#### IV.

REFLEX ACTION OF THE SPINAL CORD IN WARM-BLOODED ANIMALS AND  
IN MAN. DIMINUTION OR INCREASE OF REFLEX ACTION. PHYSIO-  
LOGICAL FUNCTIONS OF THE SPINAL CORD AS A NERVOUS CENTRE.

GENTLEMEN, — Having investigated, as far as our time permits, the reflex action of the cord in its simpler manifestations in the cold-blooded animals, let us now endeavor to see whether anything of a similar nature can be observed in the higher animals and in man. It has been ascertained beyond a doubt that in all species the reflex action of the spinal cord is constantly in operation, but as a general rule, and especially in man, this action escapes notice, for the reason that its phenomena are overshadowed by those of conscious sensation and of the will. The reflex action of the cord is dwarfed, as it were, by the manifestations of consciousness and volition. Before completing the consideration of this subject, however, I think we shall see abundant proof of its importance.

In man, the reflex action of the cord has been noticed for many years in certain diseased conditions, and especially in cases of paraplegia. When, as a result of destructive lesions in the cord, communication is cut off between the brain above and the lower part of the body, there is sometimes an opportunity for the study of these phenomena. Some sudden accident may sever the physical continuity of the cord, or an inflammation may cause compression or disintegration of its substance. In such cases it has been noticed, over and over again, that although the patient be quite unable to move the lower extremities of his own volition, and although he may have lost the sense of feeling in these parts, yet the limbs may be caused to move by the application of an external stimulus. It is by no means necessary, for this purpose, to employ

a violent irritation; on the contrary, a slight one seems to act most efficiently in producing the effect. Some years ago I had an opportunity of studying this reaction very fully in a patient who had been affected with spinal meningitis, resulting in complete paraplegia. The functions of the brain were not in the least affected, and the intelligence and volition were entirely normal. Yet, although there was no sensibility whatever remaining in the lower limbs, on throwing back the bed-clothing and simply exposing them to the sudden contact of cool air, an involuntary twitching of the toes was often noticeable. Drawing the point of a fine needle gently over the soles of the feet would also produce convulsive movements of the toes, and even well-marked flexion of the knees and ankles. All this time the patient was entirely unconscious of either sensation or movement. During the continuance of the paralysis, which was of considerable duration, and at last ended fatally, I repeatedly witnessed these phenomena.

The reflex action of the cord in the human subject, as I have said, was first recognized in diseased states of the system, and it was then regarded as a rare and exceptional occurrence, noticeable only in man under morbid conditions, or in the lower animals after experimental operations. It was hardly supposed that these actions were constantly in operation in the human system in health as well as in disease. It afterward became evident, however, that this is actually the case. A few years ago, Robin obtained some interesting results in a decapitated criminal who had been executed by the guillotine about an hour before. The neck had been severed at the level of the fourth cervical vertebra. The body was lying, at the time of the experiments, in a natural position upon its back, with the arms extended along the sides, the right hand being at a distance of about twenty-five centimetres laterally from the body. On gently scratching with the point of a scalpel the skin over the right nipple, there was a rapid and successive contraction of the pectoralis major, the biceps, the brachialis anticus, and the muscles about the internal condyle of that side, producing a movement of flexion and inward rotation of the arm, until the hand was at last applied to the lower part of the chest. This experiment was repeated with a similar result no less than four times, but each time the action was less vigorous, and at length there was only a slight contraction of the pectoralis major, not sufficient to move the limb. It is very seldom that we have the opportunity of seeing such manifestations after death in warm-blooded animals, since the reflex actions of the cord, like all other nervous phenomena, are less persistent in them than in the cold-blooded animals. Besides, the muscular movements depending on spinal reflex action are very simple and easily recognized in the cold-blooded animals, but comparatively complex in the warm-blooded animals and in man.



But even when there is no injury or disease whatever, either of the cord or other parts, by observing closely the movements of the body in your own person you may often perceive, from time to time, certain involuntary actions performed by the muscles which are usually under the control of the will. These actions are directed by the spinal cord. The spinal cord is sometimes a more vigilant sentinel than the brain for the protection of the body from injury; or at least it reacts more promptly on the approach of danger. Almost all the sudden accidents which are liable to inflict physical injury are provided against to a greater or less degree by the reflex action of the spinal cord. In any unexpected fall, for even a short distance, as, for instance, through a hatchway from one floor of a building to another, all the limbs become instantly flexed, so as to protect the body and its internal organs as much as possible from contusion or laceration. All the parts are put in the best possible position to sustain a shock or injury without the least intentional effort on the part of the individual, and, indeed, without his consciousness. Hence it is that such accidents so rarely result in a serious injury. Nevertheless, as we shall presently see, there are still more important and extensive offices performed through the independent agency of the spinal cord.

The reflex action of the cord has certain objects to accomplish which are quite as definite as if they were designed by the intelligence. You have not forgotten the experiment performed yesterday upon the decapitated frog. But in order to bring the matter before you in another light, I will now repeat the experiment by pinching the hind foot of this frog, whose head has also been removed for some time. You see a movement of the limb takes place, by reflex action, as before. You probably remember, also, an experiment performed a fortnight ago to illustrate the general subject of nervous irritability. This experiment consisted in placing the two poles of a galvanic battery in contact with different points of the sciatic nerve of a separated frog's leg. I will also repeat this experiment upon this frog's leg, prepared as before, with the sciatic nerve attached. The battery is now arranged so that the nerve will form a part of the circuit. As I make the connection the limb, you see, is violently extended. The reason of this extension is that the whole sciatic nerve is stimulated at once by the galvanic discharge; and, as the extensor muscles preponderate in force over the flexors, the limb, as a whole, undergoes extension. In other words, a motor stimulus traversing the entire sciatic nerve produces a movement of extension in the limb. But how is it in this decapitated frog when I pinch the skin of the foot? Here we have not an extension of the limb, but a flexion. The foot is drawn upward, as if to escape the source of irritation. In this case it is the flexor muscles which contract, and not the extensors. This difference in muscular action is due to the fact

that we are now acting not directly upon the sciatic nerve, but upon the spinal cord as a nervous centre. An irritation applied in this way always produces contraction of the flexor muscles. It is as though the animal withdrew the limb on account of the pain produced by pinching its foot, and yet it has neither consciousness to feel the pain nor volition to execute a movement.

I have here some water in a glass goblet to which I will add a drop or two of acetic acid, just enough to give the fluid an acid reaction. Now, suspending the decapitated frog by the upper part of its trunk, I immerse one of the feet in the acidulated water. You see the violent movements at once excited. The limb is not only drawn up, but it acts as though it were endeavoring to brush off the irritating liquid, which in this way is scattered over other parts of the body, and there also produces active manifestations. Sometimes we obtain even more striking results than these. If I apply a drop of stronger acid to the side of the animal, you observe, not only the hind foot, but the fore foot also is applied to the spot irritated; and it is a very significant fact that the movements which are set up in this way are almost exclusively confined to that side of the body to which the acid liquid was applied, namely, in this case, the left. You will notice that there are, indeed, a few movements of the right leg, but they are very much less marked than those on the left side. If we now repeat the same experiment upon the right side you see that a similar result is obtained, the action of the limbs on the two sides being reversed. This almost looks as if it were the result of design, and as if the spinal cord were able to distinguish between the right and left sides of the body.

It is on account of these curious phenomena that one or two writers of considerable eminence have broached the idea of a real consciousness and volition existing in the spinal cord. I must say that such an opinion seems to me singularly unfounded, and due to a most injudicious interpretation of the facts. It is incompatible with other phenomena which are equally striking, and it is really unnecessary for the explanation of any. In the cold-blooded animals all movements of the limbs are of a simple character, and hence the reflex actions closely resemble those which are voluntary. If our knowledge were derived only from experiments on the decapitated frog, such as those you have just witnessed, we might be in doubt whether consciousness and volition were really abolished by removing the brain, for the animal cannot tell us whether he feels or not. He has no means of expressing his sensations, if any such exist, except by motion of the limbs. But, fortunately, we are not obliged to depend on these facts alone in forming our judgment. A *man* can tell us distinctly whether he has sensation or not; and in cases of paraplegia, in the human subject, we know that reflex movements take place in the lower limbs alto-



gether independently of both consciousness and volition. This alone is conclusive proof of the erroneousness of the doctrine above mentioned. When the paralysis of the lower limbs is complete, the patient has no more consciousness of anything that is done to them than if they were made of wood, and yet reflex movements are readily excited by the application of a local stimulus.

It only remains to consider the adaptation of reflex movements to a particular end. The apparent difficulty in explaining this adaptation has done much to favor a hasty theorization on the subject. There is no real difficulty, however, in the matter. Why should not the spinal cord have a definite object to accomplish? When we see such actions going on in the animal economy as the peristaltic motion of the intestines, the pulsations of the heart, and the contractions of the uterus in parturition, all performed for the accomplishment of definite and useful objects, and yet absolutely independent of volition, I am at a loss to perceive why the spinal cord should not also be capable of involuntary action for special objects. It would certainly be an exception to the general rule in the nervous system if it had not; and there is no reason why it should not have a definite purpose to perform, as much without the aid of volition and consciousness as if it were guided by these faculties.

Let us now glance at the mechanism of reflex action, so far as it can be understood, bearing in mind the general characteristics of the spinal cord and its nerves. We know that every motor nerve fibre goes to some definite and special destination in the muscles. Every sensitive nerve fibre has also a definite and particular origin in the integument. Again, both kinds of fibres have also special relations with the gray matter of the cord and its nerve cells. Every sensitive impression must therefore act upon certain special cells in the gray matter, and will be reflected in a special direction through the motor fibres to particular muscles. I am aware that mechanical illustrations can present only a very imperfect analogy to the functions of the nervous system; but at the same time, if due allowance be made, they may sometimes aid us to comprehend its mode of operation. Now suppose we compare the reflex action of the spinal cord to the striking of a clock. The clock-work is arranged in such a way that when the hour-hand has reached a particular spot on the dial-plate it sets in motion an apparatus which strikes that particular hour and no other. If it be two o'clock it strikes two, and not one or three; and this necessarily results from the mechanical connection of its parts. In this way we can explain the phenomena in the case observed by Robin. The action of bringing the hand to the chest was a real defensive movement, such as might have been expected under the influence of volition if the man had been alive. It is true we cannot yet trace all the anatomical connections of sensitive and motor fibres in the spinal

cord, and we are still ignorant of many important details in regard to the mechanism of reflex action. Still, there is no difficulty in understanding that a movement may be perfectly definite and adapted for a special purpose, although performed independently of consciousness and volition.

We next come to the subject of increased or diminished intensity of reflex action in the spinal cord. Anything which depresses the nervous system generally, such as excessive heat or cold, or the shock of a sudden injury, will affect the nervous irritability of the cord. After a frog has been decapitated, there is a temporary period of depression, which passes off after a few moments. On the other hand, some injuries, either of the cord itself or of the peripheral nerves, have the power of increasing this irritability, and certain poisons possess this property to an extraordinary degree. One of the most remarkable of these poisons is strychnine, which causes a notable exaggeration of the spinal reflex movements. Here is a decapitated frog which has not yet been experimented on, and you observe that the hind legs respond in the ordinary way to an irritation applied to the feet. The heart is still acting and the circulation still going on, and consequently a toxic effect may be produced by the hypodermic injection of strychnine. I have here a solution of the extract of *nux vomica*, and after injecting a small quantity beneath the skin of the back I replace the animal under the bell-glass, and allow him to remain quiet for the present. Of course, if the circulation had ceased no effect would be manifested, or rather the poison would be absorbed too slowly, and would take too long a time to reach the spinal cord. But in this case, as the blood is still in motion the poison will be rapidly absorbed, and before long will reach the spinal cord as well as the other organs. The cord, however, is the only part which is sensitive to the action of this substance. It will gradually receive successive portions of the extract, until it has taken up all that it will bear. We will leave the frog where it is for the present, and wait until the poison has time to exert its specific effect.

Our last topic is that of spinal reflex actions in the healthy human subject. These actions in the limbs and trunk are mainly of a protective character. If a gentle irritation be applied to the foot, the spinal cord only takes the trouble, so to speak, to withdraw the part out of reach; but if a stronger irritation be employed both legs may be flexed at once. If a very powerful stimulus be used, instead of flexion, strong extension may be produced, either for the purpose of driving the offensive object away, or else of escaping from it with a bound. I have no doubt that in the frog, in a state of freedom, an ordinary leap is often produced simply by the reflex action of the spinal cord, independently of the exercise of volition.

Besides this, the reflex action of the cord has much to do with main-



taining the normal attitude of the body and limbs. This is a comparatively simple matter in the frog, but in the higher animals and in man it is more complex. Especially is this true in the act of locomotion, on account of the nice balancing required in various parts of the body to maintain the erect posture. For this purpose a consentaneous action of many muscles is necessary. These associated movements are under the control of the spinal cord. Although the act of standing or of locomotion is at first voluntary, it is afterward continued by an involuntary nervous combination. Thus a man begins his walk by an act of volition, but once started he keeps on walking without any further mental effort. In the disease known as locomotor ataxia there is a loss or impairment of this coördinating power, due to a sclerosis of the posterior columns of the cord. It is not a paralysis, properly speaking, since the power of voluntary motion remains unimpaired. When the patient looks at his foot, and moves it by a distinct effort of volition, he can put it down wherever he desires; or he can direct his hand in the same way and pick up any object on the floor. But when he attempts to perform these movements without the aid of sight, and by instinctive muscular combination, he fails, because the spinal cord has lost its coördinative power. When the structural degeneration of the posterior columns is very extensive, the patient can neither stand nor walk; although when lying on his back, with his eyes open, he can move his limbs freely in every direction.

By this time, perhaps, we can see what effect has been produced by the strychnine upon our decapitated frog. You observe that he is still resting in a natural position upon the glass plate; but when I simply touch the skin of the back with the point of a slender wire, all the limbs are at once thrown into a state of violent extension. As soon as relaxation follows, the abdomen of the animal again comes down into contact with the glass plate, and this again causes a repetition of the extension. This is a striking illustration of the manner in which the nervous system is affected by tetanus. In the first place, the convulsive action is never spontaneous, but is always excited by some particular irritation. If I had not touched the frog or applied any irritation to the tegumentary surface, there would have been no spasmodic action manifested, notwithstanding the fact that the system had been poisoned by strychnine. On the other hand, when tetanic movements have once been excited they are exceedingly apt to continue until the reflex irritability of the spinal cord is completely exhausted, since the movements themselves are the occasion of repeated irritations to the tegumentary surface. The animal system cannot long withstand such a strain upon its powers of endurance, and a fatal termination is soon reached. Though some moments have elapsed since the convulsive action was first set up in this frog, you see that the muscles are still so rigid that I can hold the

animal out by the hind legs in an almost horizontal position. Of course, as the brain has been removed, all these phenomena are due to the reflex action of the spinal cord.

Finally, in addition to the functions of the spinal cord as a means of defense for the body, and the preservation of the normal attitude, either at rest or in motion, it fulfills also another very essential office. It exerts a continuous involuntary control over the sphincter muscles and the organs of evacuation. The regulation of the sphincters and that of the expulsive muscular coats, both of the rectum and the urinary bladder, are among the most important functions of the nervous system. The peristaltic movements of the small intestine and the colon are under the influence of the sympathetic nerves; but when the fæces reach the cavity of the rectum they meet with fibres derived from the cerebro-spinal system. The sphincter ani, like other sphincter muscles, is maintained in a state of nearly continuous contraction, being only relaxed when the time comes for the evacuation of the fæces. This steady contraction of the muscular fibres is not kept up by a voluntary effort. It would be quite impossible to continue such an exertion, not only for twenty-four hours, but for a single hour. If you have ever tried the experiment of holding the arm extended horizontally, or even of keeping the lips tightly closed for fifteen minutes together, you know how exhausting such a voluntary effort becomes when long continued. The sphincter ani fulfills its office without any conscious or voluntary exertion on the part of the individual, because its fibres are stimulated by the reflex action of the spinal cord. The proof of this is that if you cut off the communication between the brain and the pelvis by a section of the cord in the middle of the back, the contraction of the sphincter ani remains unimpaired. But if the lower part of the cord itself be destroyed, the contraction of the sphincter is at once abolished. The same thing is true with regard to the sphincter of the urinary bladder. The spinal cord holds under its control both these outlets of the body as an independent nervous centre, and thus contributes to the preservation of the system, without drawing upon the resources of consciousness or volition.

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## EXOSTOSIS OF THE AUDITORY MEATUS: DEATH FROM MENINGITIS. WITH REMARKS.

BY J. ORNE GREEN, M. D.,

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H. O. G., aged fourteen years, was brought to me on March 5, 1869. His father, a physician, was healthy; his mother died of phthisis; he himself, although not strong, had always enjoyed good health. When three years old an otorrhœa began on the left side, continued for several



years without producing any symptoms, then ceased for some six months, began again, and had continued constant up to the time I saw him. One and a half years before his visit to me polypus in the meatus had been diagnosticated, but no operation was performed, and the only treatment adopted was syringing and astringent applications. At no time had there been marked pain in the ear, headache, vertigo, or other symptoms than those of discomfort from the discharge. At the time of his visit the left ear was filled with a thick muco-purulent discharge; the meatus was about two thirds closed by two exostoses overlapping each other, one growing by a broad base from the anterior osseous wall of the meatus, and the other by a still broader base from the posterior wall; the lower portion of the meatus was closed by the firm contact of these growths, but in the upper portion there was a free triangular space through which the deeper parts could be examined. The drum membrane was totally destroyed, and the tympanic mucous membrane quite granular; the Eustachian tube pervious; the hearing for the watch  $\frac{1}{8}$  ft. For a more thorough examination ether was administered, and the osseous nature of the growths and their firm attachment settled; at the same time an examination with the probe was made as thoroughly as possible, but no caries could be discovered. Thorough cleansing and the application of astringents to the tympanic mucous membrane for some time caused a diminution of the discharge, but not entire cessation.

The case was seen occasionally during the next few years till January, 1874, when I was able to have it under my direct charge for a time, and the granular surface of the tympanum was cauterized by nitrate of silver till it became quite smooth, and the discharge entirely ceased. The exostoses remained as before, without any increase in size. After three months the discharge again returned, but amounted to scarcely more than a slight weeping, for which occasional syringing and inflation were used.

On December 20, 1876, I saw the patient again on account of a slight increase in the discharge, but found the tympanum quite free from any collection, the Eustachian tube easily permeable, and the discharge still very thin and slight in amount. Examination of the exostoses, however, showed that they had increased very much in size, and the passage above them would admit only a medium-sized Bowman's probe. Careful examination with a fine probe failed to detect any caries within the tympanum, and there had been no symptoms other than the slight increase in the quantity of the discharge. The hearing had diminished for the watch from one inch to contact.

Recognizing the possibility of serious mischief if the exostoses continued to enlarge, the question of operation was considered by the father and myself, but as there were absolutely no symptoms, as the discharge

was clear serum and scarcely more in quantity than the weeping of a very slightly inflamed mucous membrane, and as any operation must be necessarily quite severe, it was decided to wait. I myself also hoped that if the meatus became closed the mucous membrane, protected from external changes of temperature, would entirely cease secreting, and the slight inflammation would subside. The patient was advised to use every caution against allowing any collection of secretions in the ear by syringing and inflation of the tympanum, and on the occurrence of any symptoms, however slight, either in the ear or head, to return for examination. He then went back to college.

Two weeks from this time the discharge from the ear ceased entirely, and he was no longer able to force the air through the meatus from the Eustachian tube. No other symptoms, however, showed themselves for four weeks, when for one day he suffered with a severe headache. From this time, about February 10th, to March 22d, there were no symptoms, and he seemed in perfect health. On March 22d he had a severe headache, slowness of speech, and other symptoms which led the physician who was consulted to advise his immediate return home. This he was unwilling to do till the 24th, when the headache, restlessness, and other symptoms continuing he was brought home on a bed. He was then complaining of constant severe pain in the left temporal region and over the left eye, of occasional pain in the occiput, and of photophobia; pulse 96; at night there was slight delirium, with extreme restlessness.

March 25th. The headache and extreme restlessness continued till afternoon, when he became quite bright, laughing and talking with the family. At night the pain and other symptoms returned as before. Pulse 76.

March 26th, the earliest moment at which I could reach him, on account of the intervening Sunday and the lack of railway communication, I found him in a slight stupor, from which he was easily roused. He complained of nearly constant pain in the left lower temporal region; occasional pain over the left eye and in the occiput; and of great photophobia, worst in the left eye. There was tenderness above the left eye and of the left eyeball, and over the left temple. The pupils were normal; sight unaffected; conjunctiva of left eye a little congested. No œdema or swelling anywhere, and no tenderness about the ear. Meatus without discharge and tightly closed by the exostoses, the small opening in the upper part which existed when I last saw him being obliterated. Pulse 76.

From the fact that the pain was confined to the left side, and from the known history, I had no doubt that the inflammation of the ear had extended to the meninges of the brain, and advised free openings in the meatus and mastoid, to give exit to any retained secretions and to



enable us to douche thoroughly the whole tympanic cavity. Ether being given, the exostoses in the meatus were drilled through with a hand-drill, till an opening three millimetres in diameter was made. Examination with a probe then showed that nearly all parts of the tympanum were denuded of periosteum, and probably carious. The mastoid was then exposed by free incision, and opened by a trephine seven millimetres in diameter to the depth of three eighths of an inch or more without entering the cells. A small hand-drill was then applied in the deepest portion of the opening, directed forwards towards the tympanum, and after perforating in this direction about one fourth of an inch it entered the antrum mastoideum. Probes through the two openings could now meet, and on syringing the meatus a full stream of water passed out through the mastoid, bringing a mass of grumous material. The walls of the mastoid opening were of solid bone, and it was evident that hyperostosis existed.

Douching with warm water through the two openings was ordered every hour through the day, and every two hours through the night, with morphine subcutaneously, if necessary, for pain or restlessness.

March 27th his father writes me: "After recovery from the ether he expressed himself as quite free from pain, was more quiet through the night without chloral or morphine than the nights previous, and had good solid sleep between five and seven o'clock. This morning he appears brighter, has taken milk and gruel, and is more free from pain than yesterday, but on raising the head has slight temporo-frontal pain. His pulse is 70 this morning, and has not been above 76 since the operation."

March 28th. Another letter says: "He passed a comfortable day yesterday; said the contrast with the preceding days in regard to pain was almost inexpressible, still a little pain was lurking around the left eye and temporal region. In the course of the night he complained more of the eye. Slept considerably, but was more wakeful than the preceding night. About three and a half o'clock this morning pain became intense, more especially in the posterior part of the head, — more intense, he remarked, than ever before. We administered one sixth of a grain of morphine subcutaneously, which gave speedy relief; perspiration followed, and he slept nicely two or three hours. This morning he is awake and quiet; has some pain, but nothing intense."

That evening I saw him; he appeared quite bright; there was occasional but not severe pain in the same places as before the operation; pulse 76. The openings in the meatus and mastoid were partially obstructed, and were cleared by a probe till water passed freely. Through the night he slept fairly without morphine, but soon after waking, March 29th, was delirious for a short time. The rest of the history I take from his father's letter: "After you left us he seemed a little

brighter and coherent in speech, and remained so till about twelve o'clock, when he complained of increase of pain in the head; pulse 72. By two p. m. it became violent in the occipital region, so that he was almost frantic, and begged me to insert the morphine. I gave one sixth of a grain without relief; in less than an hour another sixth without apparent relief; pulse 76; temperature  $101^{\circ}$ . The pain was then also in the frontal region between the eyes. I feared convulsions and gave another sixth, and in the course of half an hour there was abatement of the acute suffering. He slept some; breathing short and quick. Occasional tonic contractions of arms and feet. At eleven p. m. complete paralysis of limbs of right side was noticed; face not affected. Left limbs in constant motion; sphincters relaxed; pulse accelerated, 85, full and tense. Upon rousing him he uttered a monosyllable, which was the last word spoken. The motion of the left limbs was so violent that I administered ether, after which it was lessened; pulse continued to increase in frequency. Jactitation of the limbs ceased about five a. m. At eight a. m. the quick respiration gave place to deep stertor; temperature  $104^{\circ}$ ." At nine and a half a. m. death took place. No autopsy.

From the condition of the tympanum found at the time of operation, — extensively denuded and probably carious bone, — there can scarcely be a doubt that the slight secretions retained from the closure of the meatus by the exostoses had excited an increased inflammation of the tympanum, which affected the bone, finally was communicated to the brain, and proved fatal by basilar meningitis. The exostoses were, then, the indirect cause of death, and their early removal would have saved the complications which proved fatal. The case shows the risk attending the permanent retention of the products of a chronic purulent inflammation of the tympanum, however slight in quantity or thin and watery in character.

The operation for opening the tympanum and mastoid was advised, as in a number of similar irritations of the brain from retained tympanic secretion I had seen this operation produce marked relief to the head symptoms, and the patients escaped what threatened to be meningitis. In fact, in these cases of brain disease from tympanic inflammation, there is, in my experience, almost always a period of marked brain symptoms, — circumscribed headache, photophobia, mild delirium occasionally, or confused intellect, without change in the pulse and temperature, and without the usual symptoms of acute meningitis, which might be called the period of meningeal irritation, and which precedes the true symptoms of inflammation by from one to ten days. During these earlier symptoms the operation for evacuating and douching the tympanum almost always gives relief to the brain symptoms, at least for a time, and I have seen one or two cases in which the patients escaped any further brain disease. Even in the case here given the relief from the operation was very decided for two days.



Exostoses of the meatus may be divided into two varieties: those with a more or less distinct pedicle, and those with a broad base; the former generally small, unimportant, and quite rare, — in my own experience I remember to have seen but one example, — the latter beginning gradually and developing to a large size, capable of most serious mischief if they close the meatus, and quite common. Of this latter variety I have seen seven instances, all in men, within the last two years. The history of the development of both varieties is by no means clear; all that can be said is that from our knowledge of pathological processes in general they are now usually referred to an inflammation of the periosteum. Gout, rheumatism, and syphilis, to which they were formerly referred, certainly do not exist in the majority of cases. The clinical histories of the cases, however, show that if periostitis is the case the inflammation may go on absolutely without symptoms, and in some cases without any serious changes in the ear. Of the seven cases above mentioned two had no recollection of ever having suffered from any kind of inflammation of the ears, and I saw them on account of an accidental impaction of cerumen between the bony masses. In both each ear was similarly obstructed by two exostoses, one from the anterior and one from the posterior wall; the drum-membranes were normal, the hearing perfect. In a third case, both ears were also similarly affected by two very large exostoses; the only history of previous disease was that of an acute inflammation in one ear many years before, of short duration; drum-membranes perfect and hearing normal. The other four cases were in persons suffering at the time from chronic purulent inflammation of the tympanum, with more or less destruction of the drum-membranes and great impairment of the hearing; the exostoses existed only in the inflamed ears, and in each case but one ear was diseased. Of these seven cases, two without other disease than the exostoses have been under observation for years, and there has been absolutely no increase in size in the growths; the only one of the others under observation for a long time was that reported in this paper, and it is interesting to note that in this case the exostoses remained without perceptible enlargement for more than six years, although the tympanum was inflamed for the whole of that time, and that no sufficient explanation could be given for their rapid growth during the last few months, except, perhaps, a very slight increase in the general inflammation of the ear.

In regard to the operation on exostoses of the meatus two questions should be considered, namely, the advisability of any surgical interference, and the method of removal. In the pedunculated variety, as they seldom reach any size, or produce any disturbance in the functions of the ear or any pain, their removal is, as a rule, not important. In the few cases which have been reported, in all of which the pedicle was small, a twist with the forceps or a well-directed blow has been sufficient to break off the mass, the healing has been rapid, and the recovery perfect.

In the exostoses with a broad base there is much more to be considered. From what I have seen I think we can exclude from the advisability of any operation all cases not associated with inflammation of the tympanum, and in which there is no tendency to increase in size. If, however, in these same uncomplicated cases the growths are increasing so that they threaten to close or already close the meatus, an operation is absolutely necessary to restore the hearing, which is practically lost by the mechanical obstruction of the meatus. No cases, so far as I know, have ever been reported to show what the final results of such growths would be if left to themselves, but one would fear either an extension into the cavity of the skull through the thin roof of the tympanum and meatus, or else an extension to the tympanum and such a disturbance of the circulation as to set up an acute purulent inflammation which would prove fatal from retained secretion.

Exostoses in connection with a secreting tympanic inflammation, either catarrhal or purulent, must be regarded as a serious complication, for the case first reported in this paper is a demonstration of the fact that such growths, although quiescent for years, may suddenly increase so as to close the meatus and produce the results of retained pus. In these complicated cases there is not only the risk of the exostoses closing the meatus, and so producing a caries of the bone, but if the growths have attained merely a moderate size they so obstruct the view of the deeper tympanic cavity that it is often impossible to make the applications to the tympanic mucous membrane which are necessary for relieving the otorrhœa. From these two circumstances, the possible closure of the meatus and the constant obstruction to the treatment of the otorrhœa, the removal of the growths is distinctly indicated; it is certainly imperatively demanded whenever they are associated with an otorrhœa and are also known to be rapidly increasing in size.

Although all the later text-books on the ear acknowledge the not infrequent occurrence of exostoses, I have been unable to find more than two accounts of examinations of the growths, and these two cases are unsatisfactory. Troeltsch mentions a dissection by Autenrieth,<sup>1</sup> in which an exostosis from the upper posterior wall of the meatus of a woman, aged forty, was found to consist of a bubble-like projection of bone with thin walls and a cellular cavity not connected with the mastoid cells. That this is not always or even often the condition is sufficiently shown by cases which have been operated on of late years where the mass was found to be solid bone of unusual density. Toynbee<sup>2</sup> gives a drawing of a large exostosis, but from the text and the appearance of the figure it is evident that it was drawn theoretically from what he observed in patients during life, and not from an actual dissection.<sup>3</sup> It would be

<sup>1</sup> Riel's *Archiv für Physiologie*, 1809, ix., page 349.

<sup>2</sup> *Diseases of the Ear*, page 107.

<sup>3</sup> Schwartze, in Klebs' *Pathologische Anatomie*, just published, asserts that these exostoses



interesting to know by sections the exact character of these growths, the condition of the bone of the meatus around them, and whether they extend outwards as well as inwards from the walls of the meatus.

A few cases of operation on broad-based exostoses have been reported, but these few are enough to show that removal is possible. Some few cases have also been described by the older authors which were benefited by local and general medication, but whether anything further was gained than an increase in the calibre of the canal from the diminution of thickening and swelling in the skin covering the growth is very doubtful. From what we know now of the solidity of these growths on the one hand, and of the little effect that general medication has on most diseases of the ear on the other hand, but little encouragement could be expected from this latter course. None of these authors give the history of their cases for any length of time after treatment, and the ultimate result is unknown.

A few cases of operation are, however, reported where the patients have been under observation for a long time, and in whom the good results of the operation have been confirmed by others than the operator. The different methods used have been removal by the gouge and hammer,<sup>1</sup> by the chisel and file,<sup>2</sup> by the dental engine,<sup>3</sup> and by electrolysis.<sup>4</sup>

Although by each of these methods the growth was destroyed and a good result obtained, all except the last two were extremely tedious and vexatious to both surgeon and patient, and removal by the dental engine and by electrolysis seem, with our present knowledge, to offer the best hopes of a rapid and thorough cure.

A very interesting case is reported by Dr. Clarke<sup>5</sup> of the cure of a large exostosis completely closing one meatus by means of electrolysis, the diagnosis and the cure being confirmed by Mr. Hinton.<sup>6</sup> At the first sitting under chloroform two needles attached to the negative pole were inserted at the base of the tumor, and one needle attached to the positive pole at the anterior edge. A current from six pairs of plates of a Stöhrer's battery was allowed to pass for three minutes. No irritation or pain followed. Fourteen days after, under chloroform, two needles with similar attachments were used for five minutes. No ill effect followed this application, and the tumor was somewhat reduced in

may be either congenital or acquired, and also either spongy or solid. I have been unable to consult the references to learn on what ground he makes these assertions, but from such a careful observer should accept them. To the congenital variety must probably be referred those cases in which the two ears are similarly affected, and in which there is no history of previous inflammation.

<sup>1</sup> Archiv für Ohrenheilkunde, xi., page 115.

<sup>2</sup> L'Union médicale, May 30, 1868, and Archiv für Ohrenheilkunde, xi., page 110.

<sup>3</sup> Otological Congress, New York, 1876.

<sup>4</sup> British Medical Journal, December 6, 1873.

<sup>5</sup> British Medical Journal, December 6, 1873.

<sup>6</sup> Hinton's Aural Surgery, 1874.

size. Three weeks from this time, on examination, the exostosis was found to be loose and was removed entire. The attached surface where the needles were inserted was seen to be absorbed to a mere point, and this point had broken off.

Another case which was under my own observation, both before and after treatment, was operated upon by Mr. Dalby, of London, in the same way, but the result was less fortunate. A polypoid growth behind the exostosis with symptoms of cerebral irritation rendered the operation necessary. The various details of the operation I do not know, but the patient said that he suffered extremely from acute inflammation of the ear for some days after the operation. As the result either of the electric current or of the tympanic inflammation the facial nerve on the affected side was paralyzed. When I saw him, some four months after the operation, the exostoses had entirely disappeared, the meatus was normal, the old purulent tympanic inflammation had subsided, and the result was a most perfect one except for the unfortunate accident of the facial paralysis which remained without improvement. Mr. Dalby<sup>1</sup> considers that the tympanic inflammation extended to the Fallopian canal, and thus caused the paralysis of the portio dura; for if it had been due to the electric current it would have occurred immediately, whereas it did not show itself till the next morning. Since this Mr. Dalby<sup>2</sup> prefers the operation of grinding the bone away, and for this purpose uses the drills in common use among dentists.

Mathewson<sup>3</sup> was highly successful in the removal of a large exostosis by means of the so-called dental engine. The instrument used was an Elliott's suspension dental engine with drills of three sizes. The patient was etherized, the integument covering the exostosis removed by a dental scaler, and the growth perforated at several points with the smallest drill, one and a half millimetres in diameter. These perforations were then enlarged and united by the larger drills, two and a half and three millimetres in diameter, and the irregularities ground away. The operation lasted some twenty or thirty minutes. The pain afterwards was easily relieved by warm-water douching and small doses of opiates. Purulent discharge with swelling and granulations at the seat of operation continued for some weeks, but finally ceased entirely, leaving a meatus of full size through which the membrana tympani was seen. The hearing was restored nearly to the normal standard.

The advantages of the dental engine over the other methods of operating, Mathewson says, are that it is less tedious from the rapidity of its revolutions, and less dangerous in that the rapidity of its motion perforates with slight pressure and the risk of slipping and injuring important parts of the ear is very much diminished.

<sup>1</sup> The Lancet, January 22, 1876.

<sup>2</sup> Op. cit.

<sup>3</sup> Report of the International Otological Society, 1876.



## RUPTURE OF AN ABDOMINAL CYST BY PALPATION.

BY J. R. CHADWICK, M. D.

ON October 8, 1877, Mrs. J. F., who had had two children and four abortions, the latter induced by operative procedures, applied at my dispensary for treatment. The last abortion, six years ago, had been followed by severe inflammation, owing in part to retention of the placenta. Since that time her health had been poor, but there was no history of any recurrence of the acute inflammation. For six weeks there had been slight, constant metrorrhagia, an ache in the back and hips, constipation, and hæmorrhoids. Micturition had been normal, and there had been no leucorrhœa.

Examination showed the uterus to be held immovably in extreme anteversion by a general induration of the perimetric tissues, and by a body resting upon the organ and rising into the abdomen. This mass was of irregular outline, was merged below in the general induration, and was of varying consistence above, feeling in some places like a thin-walled cyst; it formed a distinct rounded prominence in the right ovarian region. Obliquely behind and to the right of the cervix was a hard, immovable, rounded, tender body, presumably the right ovary. The prominence in the right ovarian region imparted the sensation of a cyst, with a wall so thin that I warned my assistant, Dr. W. O. Hunt, of Newtonville, against the danger of rupturing it by manipulation. The whole condition was attributed to inflammatory action, chiefly cellulitic, the cyst being considered either dropsy of the right Fallopian tube or an encysted peritoneal effusion. Enemata of hot water, hot hip baths, and iodide of potassium were ordered.

On October 12th the patient reported herself more comfortable, but full dejections had not been secured by the enemata.

While very cautiously making the combined abdomino-pelvic examination, with my mind alive to the dangers of rupturing the cyst,—although I had never known that mishap to have occurred,—the prominence on the right side of the abdomen, and a great part of the mass overlying the body of the uterus, suddenly subsided under my hand. I gazed at the patient's face with a momentary apprehension lest she should fall into a collapse on the table, as would have been likely to occur had the contents of the cyst been purulent, or possibly if they had been of ovarian origin. Her calm, unconcerned expression, however, reassured me. The whole posterior wall of the uterus could then be distinctly felt. There was no escape of fluid from the vagina.

I went to the patient's house the next afternoon in response to a summons, fully expecting to find symptoms of impending peritonitis. There had, however, been only a little gastric disturbance and painful movement of wind in the intestines.

On November 28th examination showed that there had been no reaccumulation of the fluid in the cyst; the induration in the pelvis was rapidly disappearing, and the uterus regaining its natural mobility. Menstruation had lasted eight days, rather profusely. Since that date the patient has been free from all uncomfortable symptoms.

The fact of the discharge of the fluid in this case by rupture of the cyst without the supervention of peritonitis tends to confirm the diagnosis of encysted peritoneal effusion or dropsy of the Fallopian tube, with a preponderance of probability in favor of the former.

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## RECENT PROGRESS IN ORTHOPÆDIC SURGERY.

BY E. H. BRADFORD, M. D.

*Anchylosis of the Hip-Joint; Section of Femur.* — Mr. Adams claims for his operation (section of the neck of the femur with a subcutaneous saw) that “in a very large proportion of the cases operated on the subcutaneous division of the neck of the thigh-bone proved to be as harmless an operation as subcutaneous tenotomy.” He insists upon the importance of operating on suitable cases only. In the fatal instances he thinks the operation was ill judged.

Mr. Adams has collected twenty-two cases of his operation.<sup>1</sup> Of these two died, one of pyæmia and one of secondary disease. When successful, the operation seems to have been followed by no unfavorable symptoms.

Beside the cases in Mr. Adams’s table, the operation has been recently successfully performed by Mr. Golding Bird.<sup>2</sup> The results in the successful cases have been excellent. Mr. Adams’s patient was able two years after the operation to walk seven or eight miles. Mr. Adams has never obtained motion after section of the neck of the femur; this has, however, been gained by Jessop, Sands, and Lund. Two cases of Mr. Lund were examined eighteen and nine months after the operations (sections of both femora in each case). Good motion was found at one joint in each case; both patients were able to walk about freely with the help of a cane.<sup>3</sup>

Section of the femur below the neck has been reported within the last year by Golding Bird,<sup>4</sup> Hamilton,<sup>5</sup> Maunder,<sup>6</sup> Croft and Brodhurst three cases.<sup>7</sup> In all these cases the operation was successful, and attended by little constitutional disturbance. The chisel was used as

<sup>1</sup> Med. Chir. Transactions, second series, vol. xlii.

<sup>2</sup> Guy’s Hospital Reports, third series, vol. xxii., 1877.

<sup>3</sup> British Medical Journal, September 29, 1877.

<sup>4</sup> Guy’s Hospital Reports, third series, vol. xxii., 1877.

<sup>5</sup> Ohio Medical Recorder, August, 1877.

<sup>6</sup> British Medical Journal, December 8, 1877.

<sup>7</sup> Transactions of the London Clinical Society, vol. x.



recommended by Maunder in all instances except those of Messrs. Croft and Brodhuurst. Mr. Bryant<sup>1</sup> mentions a case which terminated fatally a few months after operation.

Section (with a chisel) of the femur just below the trochanter has been performed recently by Dr. Porter<sup>2</sup> at the Massachusetts General Hospital. The patient was nineteen years old, and had been bed-ridden for four years. There was deformity at the left hip-joint, and no motion at either hip-joints or at the right knee-joint. There was also necrosis of the right tibia. The patient's condition improved for a time after section of the femur, but death took place four months after the operation. An abscess formed in the left thigh, apparently secondary to the operation, although strict antiseptic precautions had been used.

In the eight cases, therefore, of section of the femur below the trochanter, performed in the last year, two have died within six months after the operation.

In the New York *Medical Record*<sup>3</sup> the ultimate result of Dr. Sayre's case of section of the femur is mentioned as being very unsatisfactory, the patient being in a worse condition than before the operation.

Dr. C. F. Taylor<sup>4</sup> reports two cases of fracture of the thigh near the trochanter in ankylosed hip-joints. In one the fracture was made by a specially devised osteoclast; in the other, as in a case under the care of M. Tillaux,<sup>5</sup> the fracture was accidental during an attempt at *brisement forcé*. In all these cases the result was a useful limb in improved position.

*Curved Tibiæ ; Section of Bone.*— This operation, introduced by Jobert, and so enthusiastically adopted by Boeckel, who has performed it thirty-four times with favorable results in all cases, and also by German surgeons (Billroth, Volkmann, and Schede), appears to be gaining favor with English surgeons.

Bradlee<sup>6</sup> reports having performed the operation four times on two patients. Mr. Bradlee's cases were six and three years old. Firm union took place in from three to six weeks. T. Jones<sup>7</sup> has operated in this way on four patients, cutting both tibiæ in each. Cowell<sup>8</sup> reports a case in a child four years old. Walking was impossible, owing to extreme deformity of the tibiæ. One tibia was divided with the saw, and two months later the second with the chisel. Five weeks after the second operation the patient left the hospital, able to walk quite well.

<sup>1</sup> Lancet, December 22, 1877.

<sup>2</sup> The notes of this unpublished case have been furnished by the kindness of Dr. Porter.

<sup>3</sup> March 2, 1878.

<sup>4</sup> New York Medical Record, April 21, 1877.

<sup>5</sup> L'Union médicale, Nos. 27 and 29, 1876.

<sup>6</sup> Lancet, July 21, 1877, page 78.

<sup>7</sup> Lancet, vol. ii., page 235, 1877.

<sup>8</sup> Lancet, vol. i., page 420, 1877.

Barwell<sup>1</sup> has also operated successfully in two cases. Schede<sup>2</sup> mentions three successful cases at the ages of twelve, fifteen, and eighteen. Albert<sup>3</sup> reports three cases in children, in one of which the tibia was divided in two places. Strict antiseptic precautions were used, and recovery took place without suppuration. Heineke<sup>4</sup> reports two successful cases.

The operation has therefore been done recently thirty times on fifteen patients, with good results. If we compare this with Boeckel's results, with Billroth's and Volkmann's eighteen operations for osteotomy in nine patients, all successful, and with the favorable opinion of other surgeons, it will be admitted that the dangers of the operation cannot be great, even allowing that a certain number of unsuccessful cases have not been reported.

Most German surgeons seem to prefer the chisel in operating, but Jones and Bradlee find the saw most convenient; the latter states that the division of the bone is made with the greatest ease through a small puncture through the skin made by a tenotome. Antiseptic precautions should always be used. Naturally the operation should be performed in the extreme cases only where other measures have failed.

*Club Foot.* — Mason<sup>5</sup> excised the astragalus and cut off a portion of the external malleolus in an adult patient with congenital club-feet. The wound did not do well; secondary hæmorrhage followed; amputation of the limb was performed, but the patient died within a few days.

Verbelzi<sup>6</sup> reports a successful case of congenital club-foot in a child five and a half years old, treated by excision of the astragalus. An incision was made parallel to the length of the astragalus, the periosteum was raised, and the bone scratched out. The foot was then brought into position, and a fenestrated plaster-of-Paris bandage applied. Complete recovery is said to have taken place, but the details are not given.

This operation has also been performed successfully by Mr. Lund, on both feet, in a child seven years old.<sup>7</sup>

Davies Colley<sup>8</sup> advocates resection of the tarsal bones in extreme cases of talipes equino-varus, where other measures have failed. In the case reported (a boy twelve years old), ten days after the operation on the second foot and twelve weeks after the first operation, the patient

<sup>1</sup> *Lancet*, December 22, 1877, page 922.

<sup>2</sup> *Berlin. klin. Wochenschrift*, September 3, 1877.

<sup>3</sup> *Wiener med. Presse*, September 16, 1877.

<sup>4</sup> *Deutsche med. Wochenschrift*, November 24, 1877, page 564.

<sup>5</sup> *New York Medical Record*, July 14, 1877.

<sup>6</sup> *Centralblatt für Chir.*, No. 24, 1877.

<sup>7</sup> *British Medical Journal*, October 19, 1872.

<sup>8</sup> *Med. Chirurg. Transactions*, second series, vol. xlii., 1877.



was able to walk about without any apparatus. Two months later, when reëxamined, no apparatus having been worn in the interval, the foot was found in good position, the boy treading on the whole of the sole. The patient could walk, hop, and jump. Six months later he was able to walk eight miles.

Mr. Davy<sup>1</sup> has operated in three cases by removing the cuboid bone (an operation first performed by Mr. Solly) or both cuboid bones, and in three cases by excising a wedge-shaped piece from the tarsal arch in equino-varus, and in one case of simple equinus. Death from septiciæmia occurred in one case. In the others recovery from the operation took place, and from the report the cases progressed or were progressing favorably.

Mr. Lund showed before the Medical Society of London<sup>2</sup> a case operated on by him in May, 1877, for double talipes by removing the astragali. The boy was able to walk about with ease. The astragalus was removed after incision through the soft parts by means of a gouge and a short, curved hook with a cutting edge on its concavity.

The operation has also been successfully performed by Mr. Lund,<sup>3</sup> and by Mr. Thos. Smith and Prof. John Wood.<sup>4</sup>

*Knock-Knee.* — In almost all cases of genu valgum the deformity is maintained by a vertical enlargement of the internal condyle, or an atrophy of the external condyle. (Verneuil.<sup>5</sup> Ogston.<sup>6</sup>)

The weight of the trunk presses more on the external condyle of the femur than on the internal. In certain pathological states of the bone the growth on the external side is in this way hindered, and the internal condyle finally becomes lengthened. In almost all cases in children knock-knee can be corrected by persistent mechanical treatment.

At the National Orthopædic Hospital in London the patients are placed in bed to remove the superincumbent weight.<sup>7</sup> Mechanical support to remove the existing deformity is to be applied. Straight splints adapted to the outer side and a bandage to the whole length of the limb answer in the simpler cases.<sup>8</sup> In the most aggravated cases the limb is fastened in two gutter splints, one for the thigh and one for the leg. These are to be united at the knee by a ratchet joint; by means of a key the limb can be made straighter. But little force can be used, however, and but little is required.

It is rarely necessary, according to Vincent, to cut the hamstring

<sup>1</sup> Lancet, March 16, 1878, page 388, and British Medical Journal, December 15, 1877.

<sup>2</sup> Lancet, March 16, 1878, page 389.

<sup>3</sup> British Medical Journal, October 19, 1872.

<sup>4</sup> Lancet, March 16, 1878, page 389.

<sup>5</sup> L'Union médicale, October 24, 1877.

<sup>6</sup> Archiv für klin. Chir., Band xxi., Heft 3, 1877.

<sup>7</sup> Vincent, Medical Press and Circular, June 20, 1877.

<sup>8</sup> Fisher, Lancet, January 20, 1877.

tendon. Sometimes the external ligament is to be divided. The operative treatment in extreme adult cases was thoroughly discussed at the sixth congress of German surgeons.

Langenbeck in four cases cut the external lateral ligament, straightened the limb forcibly, placed it in a plaster-of-Paris bandage, and afterwards applied apparatus. Although in straightening the limb air was sucked into the joint, the result was satisfactory in all cases.<sup>1</sup>

Delore's method of forcibly straightening the limb has been done successfully by Billroth, Volkmann,<sup>2</sup> and Tillaux.<sup>3</sup>

Mayer, Schede, and Heine have operated by chiseling a wedge-shaped piece out of the tibia, and either breaking the fibula or cutting it with the chisel. Schede showed at the congress of surgeons the four cases operated on by him. Union took place readily, and the use of the limb was perfect.<sup>4</sup>

In one of Heine's cases osteomyelitis of the tibia followed, delaying recovery, which, however, is reported to have taken place ultimately.

Annandale<sup>5</sup> opened the joint, sawed off the internal condyle under antiseptic precautions, and placed the limb in position. The result was recovery with a stiff joint.

Ogston<sup>6</sup> has operated twice successfully, making a section of the internal condyle with Mr. Adams's subcutaneous saw. The knee was flexed; the anterior surface of the femur was sawn in the median line nearly to the popliteal surface; the limb was then straightened, causing fracture of the internal condyle. No elevation of temperature followed. Twelve weeks after the operation on one knee, and five weeks after that on the other, the patient was allowed to go about, there being perfect motion at the knee-joints. The second case was also perfectly successful.

Chiene<sup>7</sup> operated successfully by cutting a wedge-shaped piece of bone from the internal condyle and straightening the limb.

*Hip Disease: Conservative and Operative Treatment.* — Mr. Holmes<sup>8</sup> reports the examination of three patients on whom he had performed the operation of excision of the hip-joint successfully, eleven, twelve, and thirteen years previously. There was but little shortening, and the patients were all able to walk without a cane; only one, however, could bear his weight upon the affected limb. Motion was excellent at the new joint. Mr. Holmes believes that the limb, after successful excision, does not give so good a support and is not so useful as that resulting from a "natural cure," as he terms it.

<sup>1</sup> Berl. klin. Wochenschrift, October 1, 1877, page 40.

<sup>2</sup> Berl. klin. Wochenschrift, October 1, 1877.

<sup>3</sup> Bulletin de la Société de Chirurgie, 1876, Nos. 7 and 8.

<sup>4</sup> Centralblatt für die med. Wissenschaften, May 12, 1877.

<sup>5</sup> Edinburgh Medical Journal, July 18, 1875.

<sup>6</sup> Loc. cit.

<sup>7</sup> Edinburgh Medical Journal, September, 1877, page 260.

<sup>8</sup> Medical Times and Gazette, November 3, 1877.



Dr. Gibney<sup>1</sup> gave an analysis of eighty cases of hip disease where recovery took place from what he terms "nature's cure," no particular treatment except constitutional having been followed.

In thirty-three the disease lasted three years; in twenty-eight from three to six years; in one case fifteen years. In forty-eight cases abscesses had existed. Out of the eighty cases motion was reëstablished in twelve in arcs of from 15° to 90°. In seventy-one cases the cure was accomplished before the fifteenth year. In only eight of these cases such deformity resulted as to interfere with walking. In a large majority of cases there was but two inches shortening.

Cazin<sup>2</sup> reports that of eighty cases of suppurative hip disease treated at the hospital at Berek in the course of five years, forty-four were cured, ten died, twenty were not cured, six were improved, — a percentage of recovery of fifty-five per cent. Cazin has seen recovery in desperate cases. In fifteen cases of suppurative coxitis with albuminuria, five died under conservative treatment, two were discharged improved, six not improved, and two cured.

Dr. Yale<sup>3</sup> states that of thirteen cases of excision (twelve operated on by Dr. Sayre) where he was able to follow the cases for a length of time, six died and six were cured, sinuses having discharged and none reappearing. In one, sinuses are still discharging, but the patient's condition is reported to be improved since the operation.

Dr. Poore<sup>4</sup> states that of ten excisions performed by him only one can be considered cured. It would appear from Cazin that in the worst forms of hip disease cure could be hoped for.

According to Dr. Yale, in these cases "the mortality is not increased by the operation; if cured they are cured more speedily."

Mr. Holmes considers that the operation has claims for adoption from "its success in saving life where natural cure seems improbable. These cases are rare if care for years can be provided."

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## PROCEEDINGS OF THE NORFOLK DISTRICT MEDICAL SOCIETY.<sup>5</sup>

HENRY R. STEDMAN, M. D., SECRETARY.

OCTOBER 9, 1877. The society met in Bradlee's Building, Roxbury, at eleven o'clock, the president, DR. JOHN P. MAYNARD, in the chair. Present, twenty-eight members.

*Malignant Pustule.*—DR. ROBERT AMORY reported the following case of malignant pustule.

<sup>1</sup> New York Medical Record, March 2, 1878.

<sup>2</sup> Statistique des Coxalgies suppurés. Bulletin de la Société de Chirurgie, 1876, No. 5.

<sup>3</sup> New York Medical Record, March 2, 1878.

<sup>4</sup> Ibid.

<sup>5</sup> This report has been unavoidably published out of the regular order of the meetings.

On Friday, July 6th, the mother of a boy nine years of age observed a minute spot on the dorsal surface of the foot one inch above the junction of the first and second toes. She reported that in a few hours the small pimple had become filled with a clear fluid, and the skin around its base was red and inflamed. The next morning she sent the boy to see Dr. Amory. Where the pustule had been the day before was a depressed, reddish-looking spot from which exuded a clear, serous fluid; circumscribing this was a uniformly raised bleb, around the outside of which was red, indurated tissue; from the outside circumference the bleb measured about half an inch in diameter. A slightly accelerated pulse at the radial artery indicated febrile action. The temperature was not observed. The appetite appeared to be good, and no untoward symptom had appeared. A simple dressing of glycerine plasma and boracic acid was applied.

On the third day (July 8th) the depression was somewhat enlarged and slightly inflamed; the circumference of the bleb was double the size of the day before, and on being punctured the serum transuded. Indurated and inflamed tissue had extended irregularly over the whole dorsum of the foot, and the latter was somewhat tender on palpation, but there was entire absence of pain and of constitutional symptoms, save an increased rapidity of pulse (110) and absence of stool for forty-eight hours. A mild cathartic (rhamni frangulæ elixir and a small dose of Hunyadi János bitter water) and continued boracic acid dressing was the only treatment.

On the fourth day the sole change in appearance was an extension of the size of the refilled bleb and of the central depressed spot. The skin was quite turgid and tense with the contained serum. There was continued absence of constitutional symptoms. The cathartic had caused two good stools.

On the fifth day, from the central, depressed, reddish-looking spot exuded a drop or two of red sanious serum. The spot itself looking gangrenous, indurated tissue had become softer, but still remained red, the flush extending up the leg. There was no fever and no abnormal symptom. The cloth, being removed, was found to be stained green.

On the sixth day the bleb was punctured, and the serum (clear) allowed to escape on a cloth, which was removed and consumed by fire. The central depressed spot had become desiccated, and appeared demarcated.

On the seventh day, signs of sloughing off of the black eschar.

On the eighth day the eschar was removed and examined under the microscope by Drs. Amory and Fitz. After its removal the spot under it presented a phagedenic appearance, but there was no pus. The cutaneous tissue was entirely gone, and the tendons to the toe could be easily seen through the moist subcellular tissue.

On the tenth day the puffiness and redness had entirely disappeared, and the spot from which the eschar had been removed was occupied by a dark-looking, firmly adherent, dry scab.

The only treatment pursued was rest, fresh air, care to conceal all anxiety as to the result from the child and its parents, and a daily application of the anti-septic dressing, bound tight to the foot, on clean cloths, every cloth removed being immediately burnt. No small vesicles appeared on any other part of the body.



Sixteenth day. Except when the boy has borne his weight upon the affected foot there has been no pain in the ulcer, and no constitutional symptoms have been present. The cuticle and underlying skin corresponding in extent with the watery bleb has entirely disappeared, and in its place is a blackish-red, healthy-looking scab two inches in diameter, with detached margin surfaces. The depression of the surface is quite marked. The sore has been dressed since last report by a daily poultice of soft-boiled carrots. To-day the old dressing was resumed.

Seventeenth day. The scab has assumed a black, gangrenous appearance, with detached margin, and the rest of the ulcer is covered with pus. Flaxseed poultices recommended to clean the sore.

Twenty-third day. The black, gangrenous scab is reduced to a small central portion of about one third the diameter of the sore. The latter has not extended, and granulations have sprung up in different parts of the uncovered ulcer. The old dressing of glycerine plasma and boracic acid is resumed, but as it causes severe burning pain is replaced with water dressings.

Twenty-fifth day. The scab is sloughing off, being attached about three fourths of an inch below the surface.

Dr. Amory regretted that he had not examined the serum for vibriones.

Dr. A. H. NICHOLS inquired what Dr. Amory's theory might be as to the mode of infection in this case. He spoke also of the three varieties of the lesion. First, where the "button" only was visible. Second, in which a large, sloughing, phagedenic pustule, with surrounding inflammation and constitutional disturbance, appeared. Third, where there was no external sign to indicate the disease, but there was marked affection of the spleen. A number of cases which he had investigated were all from the same hair factory, and those affected were all employed in assorting a particularly dirty invoice of hair. He regretted the absence of Dr. Stone, of Walpole, who had seen a large number of these cases, of which an elaborate report had been made.

Dr. FOGG had seen over twenty cases of malignant pustule, many in the above-mentioned factory. In some cases the lungs had been affected, there being much expectoration of pus, cough, etc., but final recovery. There had been two fatal cases in Hyde Park in one year. In one of these, a red, well-marked pustule, black in the centre, appeared on the second day. He prescribed hyposulphite of soda, twenty grains, every two hours. No constitutional symptoms appeared for two days, at which time delirium set in, and face, neck, and chest became swollen and œdematous. The patient had continued his work throughout the disease, and had neglected taking the medicine as ordered. Dr. Fogg said that these had been the only cases in which the treatment by hyposulphite of soda had been followed by a fatal result. In every instance the hair upon which the patients had been at work had come from Siberia. In reply to questions by Dr. Sabine, he described some of the lesions occurring in the digestive tract, and said that in those cases which presented no external pustule the disease was characterized by symptoms of intense erysipelas.

Dr. HENRY A. MARTIN remarked that this was apparently a case in which the disease had been aborted by the antiseptic treatment employed. In other

cases there were present enormous induration of the parts, with severe constitutional disturbance, in which deep incisions had been his treatment. It would be interesting to know if modern antiseptic treatment of these cases had been generally successful. In this case he thought there was no doubt of it, as no pus had appeared until after the poultice had been applied. He also said that cutting out the pustule had been tried, but with doubtful success. Also that the farther removed the sore was from the centre of the body the more successful was the treatment.

DR. AMORY said in reply that the source of infection in this case was probably a foul stream in which the child had been wading, and which received the sewage from various sources, as well as the scourings from a tannery. He remarked also that Ziemssen gave a good account of the pathology of internal malignant pustule. He had had no opportunity to try the hyposulphite of soda treatment, which was supposed to destroy the vibriones circulating in the blood. He used glycerine plasma as an excipient for the boracic acid, owing to its better applicability to the sore.

DR. O. S. ROGERS then read a paper on the Abuse of Medical Charity, since published separately, by request of the society, in the JOURNAL, November 1, 1877.

DR. G. D. TOWNSHEND then reported a case of Amputation at the Hip-Joint, lately published in *The American Journal of the Medical Sciences*.

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### ARMY MEDICAL SERVICE.

It may interest some of our readers to learn that an army medical board is now in session in New York for the purpose of filling vacancies in the medical corps, about fifteen in number. The salary of an assistant surgeon is sixteen hundred dollars a year on entering the service, with an increase for every completed five years; also traveling expenses, quarters, fuel, and forage. The following is the general plan of the examination as laid down in a memorandum distributed by the war department:—

(1.) A short essay, either autobiographical or upon some professional subject, — to be indicated by the board.

(2.) Physical examination. This will be rigid, and each candidate will in addition be required to certify "that he labors under no mental or physical infirmity, nor disability of any kind, which can in any way interfere with the most efficient discharge of his duties in any climate."

(3.) Oral examination on subjects of preliminary education, general literature, and general science. The candidate must satisfy the board in this examination that he possesses a thorough knowledge of the branches taught in the common schools, and a failure to show this will end his examination.

Oral examination on scientific subjects will include chemistry and natural philosophy, and that on literary subjects will include English literature, history of the United States, and general history, — ancient and modern. Candidates possessing a knowledge of the higher mathematics, the ancient and modern languages, will be examined therein, and due credit given for a proficiency in any or all of these subjects.

(4.) Written examination on anatomy, physiology, surgery, practice of medicine and general pathology, obstetrics, and diseases of women and children. Oral examination on these subjects, and also on medical jurisprudence, materia medica, therapeutics, pharmacy, toxicology, and hygiene. Few candidates pay the attention to hygiene which it deserves; it is made an important subject in this examination.



(5.) Clinical examination, medical and surgical, at a hospital.

(6.) Performance of surgical operations on the cadaver.

The address of the board is 1193 Broadway, New York, where applicants can obtain any information desired.

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### DIPHThERIA AT NEWPORT.

THERE have been a number of cases of diphtheria in Newport during the winter, and several families having suffered severely from the fatal effects of the disease, considerable feeling has been manifested by the citizens that no proper steps have been taken by the authorities to improve the sanitary condition of the city. In a letter to the *Newport News* Dr. H. R. Storer urges the importance of establishing a board of health, and points out that there is no organization of that character in the whole State of Rhode Island. A petition has since been made to the city for the formation of such a body. We notice a letter from Dr. Whitney, of Pawtucket, to the same paper in which, if we understand him rightly, he takes the ground that diphtheria is neither contagious nor dependent to any extent upon sanitary surroundings, and we also notice in the list of deaths a statement that "relatives and friends are invited to attend" the funeral of one of the victims at the residence of a family in which several members have succumbed to the disease. As is well known both our own state and city boards of health have taken decided ground as to the contagiousness of this disease, and we think it highly important that, in view of the extent to which this epidemic has raged in New England for several years, the public should be clearly impressed with the importance of preserving the sanitary condition not only of towns and villages, but of private dwellings, and that the present lax notions of conducting the funerals of persons dead of diphtheria or of scarlet fever are calculated to secure a persistence of epidemics of these diseases. We have observed one or two glaring instances of want of caution on these points recently, and although it is manifestly improper to alarm the public by enjoining unnecessary precautions, we think it would be advisable for our health authorities to exercise some control over the funerals of persons dying of diseases considered by them contagious.

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### MEDICAL NOTES.

— The American Medical Association meets, as many of our readers know, this spring in Buffalo. From the journal of that city we copy the following list of papers that are to be presented at the meeting of the surgical section:—

Address by Henry H. Smith, M. D., chairman of the section, On Certain Points in the Pathology of the Bones, including Tubercles. On Disease Germs, their Nature, Origin, and Relations in cases of Wounds, by B. A. Watson, M. D., Jersey City. On Septicæmia after Resections, by D. H. Weeks, M. D., Portland, Me. On Tracheotomy without Tubes, by Henry A. Martin, M. D., Boston, Mass. On Identity of Hospital Gangrene with Diphtheria, by John T. Carpenter, M. D., Pottsville, Penn. On Permeability of Entire Alimentary Canal by Enemata with some Surgical Applications, by

Robert Battey, M. D., Rome, Georgia. On Irritation of the Metatarsal-Phalangeal Articulation in Valgus of the Great Toe, by Frank H. Hamilton, M. D., New York. On the Process of Repair in Wounds with and without Antiseptic Treatment, by Frederick Hyde, M. D., Cortland, N. Y. On Extirpation of the Thyroid Gland, by Julius F. Miner, M. D., Buffalo, N. Y. On Fractures at the Wrist, by John H. Packard, M. D., Philadelphia, Pa. On Pathology and Treatment of Cancer, by Theodore A. McGraw, M. D., Detroit, Mich. On Perityphlitic Abscess, by D. M. Clay, M. D., of Shreveport, La.

All papers to be presented in the session of the section should be forwarded to Henry H. Smith, M. D., chairman of the Surgical Section, No. 1800 Spruce Street, Philadelphia.

— The Mutual Life Insurance Company of New York have recently published the second in their very interesting series of volumes on the vital statistics of life insurance, drawn from an experience of thirty years, and embracing five thousand two hundred and twenty-four deaths. The investigations relative to pulmonary consumption and diseases of the nervous system are especially interesting and valuable. The results of careful medical selection are shown in the diminished death-rate, as compared with all the non-insured, especially in the later years of life, the difficulty of detecting consumptive tendencies in early youth being very great; not so much difference is found in the prevalence of consumption in different States as is shown by general mortality statistics; the average weight of consumptives is considerably below that of non-consumptive persons, so that a light weight is regarded as a suspicious circumstance in estimating the value of a life for insurance; the existence of a strong hereditary tendency in consumptives is confirmed as existing in a minority of cases, and a warning is given against placing undue weight upon its presence or absence; hæmoptysis, although often not indicative of serious disease or tendency to disease in the very young, is thought to be the most valuable sign of the consumptive diathesis, and no person is considered a safe risk for life insurance until ten years have passed from its occurrence. The proportionate mortality from consumption, as compared with deaths from all causes, in the experience of the company, is about two thirds of that which obtains among adults in the community at large. From diseases of the nervous system, however, their proportionate rate, at the various ages, is from nearly fifty per cent. to one hundred per cent. greater than among adults throughout New York city; it may be said, approximately, that the mortality from diseases of the nervous system nearly doubles with each decade of life from the age of twenty upwards.

— A Mr. Abel, of Faringdon, England, having refused to allow his child to be vaccinated, has been fined twenty-five times, in all amounting to about thirty pounds. An English paper in commenting upon the matter says: "Vaccination is no longer a moot point, any more than intoxication. We should not only agree to a twenty-sixth fine inflicted on Mr. Abel, or even to a hundred and twenty-sixth, but should not altogether object to see his child vaccinated by compulsion by the police divisional surgeon of the district. Toleration has been extended too far when it countenances the preparation of the soil for an epidemic of small-pox."



## CLIMATE CURE IN NERVOUS DISEASES.

MR. EDITOR, — While climate treatment of disease has been carefully studied with relation to derangements of the respiratory organs, and the four quarters of the world have been ransacked for localities which shall combine the necessary qualifications for a residence for invalids of that class, it is probable that the same wise course of action has been more thoroughly neglected in derangements of the nervous system than in any other. But a change has of late come over the spirit of our dreams, and therapeutics, which a year ago were in the advance, have retrograded, giving place to new ideas. Opiates yielded to bromides, these to preparations of chloral, these to new vegetable remedies, and these in turn will fall to the rear, slowly assuming, under the crucial test of experience, their proper position in the Pharmacopœia. Each has its value, but only long years of trial can assign it, and then new forms of investigation derange the table of values as new compounds arise from the crucible's vapors at the touch of the chemist's wand. In such great numbers and varieties are these new *ides*, *ates*, and *ics* appearing, claiming each to possess some special merit far beyond the other, that the doctor who works, and who must read as he runs, turns almost with despair back to the old tinctures and extracts which centuries have proven reliable, leaving just where it should be, in the hands of younger men, the task of testing novelties.

In no branch of practice is the temptation to use these new drugs so strong as in nerve diseases, where symptoms rarely distinctly mark lesions, where lengthy treatment often utterly fails of results, and where patients demand novelties, even if they are of no benefit. In consequence, the array of gayly colored fluids, fragrant with spice, and tasting like a well-mixed cocktail, with effects not utterly dissimilar; of granules, homœopathic in size and effect; of galvanic belts and plasters utterly devoid of any electrical action; and of appliances without number to induce sleep or to prolong it, crowd the shelves of fashionable apothecaries, and are retailed to hypochondriacal customers in immense quantities. Again, as a consequence, the array of invalids of this class steadily grows at a far more rapid rate than does our knowledge of their treatment.

One remedy has yet to run the gauntlet of trial and criticism, and that is "climate cure." Where I write, the warm waters of the Caribbean splash upon the lonely island of New Providence, and soft breezes bring in at every window and door the perfume of a hundred blossoming trees and plants. Living is a luxury, and in thinnest of summer dress we lounge upon the spacious verandas of the Royal Victoria Hotel at Nassau, and stretching out at full length give brain and nerve full rest while mere physiological life progresses. Here indeed is rest. Around me are half a dozen invalids with worn-out nerves, — strong, stalwart men, portly, well-nourished dames, yet martyrs to overworked brain or overstrained spinal cord. They have gone through the entire list of drugs with but small relief, for the cause was yet busy and effect continued. New England climate, with its rapid changes acting as so many direct concussions upon the tightly drawn cord, giving no rest to body or mind, had fully sustained its part, and barely in their prime they had settled down to think their cases hopeless. Long persuasion

was needed and much encouragement called for before they could pluck up spirit enough to make one more trial, the climate cure; and when at last we sailed out of New York in the good ship *Carondelet*, they were as those who said, "*Lasciate ogni speranza.*" As we steamed southward over seas that were as tranquil as peace, and came into latitudes where heavy clothing was a burden and the sun's rays grew warmer, where New England frosts and home cares alike receded into the distance, and where the content that comes from enforcement arose to combine with the rest, a visible change occurred. Eyes that had known no sleep for months, save under the influence of drugs, grew languid and sleepy, and closed, and the first step in climate cure was reached, — natural, continued sleep. For the next week little else was done except eating, and the anxious look in eyes, the wrinkles in brows too youthful in nature's course for such marks, the trembling hand, the aching backs and heads, were left behind us with the cold winds and waters of northern latitudes. What time they were not sleeping or eating they were congratulating themselves that they came. Already they were fully content. In two cases the pulse-rate, which for a month before our starting had been more than a hundred, after the sixth day fell to eighty-four, and thence steadily down to normal. Then came the return of a healthy appetite. Even sea food, at no time especially attractive to a landsman, was as eagerly looked for as would be at home the *cuisine* of Delmonico or Parker. With a healthy appetite came good digestion and good nutrition. That most uncomfortable derangement which, for want of a better name, we call nervous dyspepsia vanished before the climate cure, and stomachs which would scarcely bear the most delicate farinaceous preparations took excellent care of corned beef and cabbage. This of itself was happiness. When, to the ladies, in addition to sweet sleep, good appetites and digestion, came relief from backache and uterine pain, their cup was full. Every nerve was relaxed, and lost tension was gained health.

I have observed for many years that dysmenorrhœa almost invariably disappears at sea, and one of my patients who had been a life-long sufferer from that scourge of our women told me that she should not have known when the flow occurred, as far as pain symptoms went. By the time the *Carondelet* came to anchor off the light at Nassau, the cure was well under way; when we drove up to the portico of the Royal Victoria, and walked into a hotel as thoroughly complete in appointment as the Tremont or Fifth Avenue, contentment knew no bounds. Here no mail or telegraph annoys, no rise or fall in stocks can worry, or any failure of insurance companies trouble. There is nothing to do but to rest, breathe the delicious air, eat, sleep, and be merry. Should any be aquatically inclined, there is no spot in the world where there are such lovely sails as about Nassau. The coral reefs and sea gardens offer innumerable attractions to the naturalist, and it is indeed a delight to sail where the skies are ever serene and the winds are always fair. The climate is singularly equable. Three successive winters give me a range of variation of but three degrees in three weeks. From seventy-four at midday to seventy at midnight was the change, except once where it gained one degree and fell to sixty-nine. It is this exceptional steadiness of the thermometer which gives to the lovely island its chief value in nerve diseases, as there is nothing in the world so sure to *agacer* a nervous man as bad weather. When one *cannot* growl thereat one



great temptation to be irritable is gone, and with no mails or telegrams another. The only excitement is upon the discovery of a new orchid or flower, or upon the advent of church and Sunday, — innocuous in the extreme. For the climate cure it would be hard to find a winter sanitarium equaling Nassau in every respect, and when I add to its many attractions the presence of thoroughly trained physicians who are gentlemen in every sense, the measure is full.

After a certain time spent here, should quietude pall and rest grow painful, from Nassau to Havana by the fine steamers of the Murray and Ferris line is but a day and a half, and we are at once in a different world. Busy life of a description unknown elsewhere, crowded streets, beautiful women, excellent music, and pleasant temperature make a change at once beneficial and delightful. Señor Baera, of the Hotel Pasaje (pronounce the *j* like *h*), gives courteous greeting and courteous treatment to the coming and speed to the parting guest. When the hotel is finished and a few changes made in the way of sewerage and the like, a restless invalid will find a day or two of halt made here beneficial. To the medical man there is much that is interesting. In company with Dr. Burgess I made a visit to the hospital for lepers, called after their patron saint, San Lazaros. It is excellent in arrangement and detail, was built and is supported by a bequest from a wealthy leper. The disease here assumes a tubercular form, being identical with the *spedalskhed* of Norway, the first marked symptom being a rapid absorption of the nasal bones and a consequent sinking in of the alæ, giving a most repulsive appearance to the face. As is the case everywhere, treatment is of no possible avail, and the length of the disease varies from eight to twenty-five years, usually ending in tuberculosis of the lungs. Thence the kind and genial doctor drove me to a private establishment under his care, which, with others of its class here, is supported in the following manner : A certain number of persons, in this case limited to twenty-five hundred, subscribe each three dollars per month towards its maintenance, thereby securing admission in case of sickness, and treatment while there gratis. These are generally strangers, of whom Havana contains a large number, — Spanish officers on duty, merchants, and others. The price of board varies with location, etc., being, however, always reasonable. Although there are sporadic cases of yellow fever in Havana every month in the year, Dr. Burgess assured me that just now there was none.

But, *revenons*. Nothing can be more exhilarating than a ride along the Paseo and through the wide streets in the newer portion of the city, where all the town is on wheels from five to seven p. m., when the heat of the day is gone, — and one is ready for a good rest when that is over. After the first of April I would hesitate to advise Cuba, for the midday heat grows strong, while the nights are still cool, and the change is too great for a stranger. Before that time the climate is more equable, while up to the last of May Nassau is perfect. I am firm in the belief that the time is not far distant when climate cure for nervous invalids, who are, as a rule, able to gratify any wish so far as travel goes, will be much more popular than at present, because better understood, and in conclusion wish to say that I shall be happy to answer any questions thereupon from any medical man.

WILLIAM F. HUTCHINSON, M. D.

## COMPARATIVE MORTALITY-RATES.

	Estimated Pop- ulation, July 1, 1878.	Deaths during week ending April 6, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean of ten Years, '63-77.
New York.	1,093,171	509	24.21	24.32	28.71
Philadelphia.	876,118	304	18.04	18.80	21.54
Brooklyn.	549,438	170	16.09	21.51	25.50
Chicago.	460,000	108	12.21	17.83	22.39
Boston.	375,476	146	20.22	20.10	24.34
Providence.	100,000	33	17.16	18.81	19.20
Lowell.	55,798	31	28.89	19.09	22.50
Worcester.	54,937	20	18.94	14.07	22.30
Cambridge.	53,547	26	25.24	18.69	20.83
Fall River.	53,207	26	25.41	21.35	24.96
Lynn.	35,528	17	24.89	20.42	19.67
Springfield.	33,981	6	9.19	16.04	19.77
Salem.	27,140	10	19.16	20.28	21.15

MIDDLESEX NORTH DISTRICT MEDICAL SOCIETY. — The annual meeting of the society will be held in their rooms in Mechanics Building, Dutton Street, Lowell, Mass., Wednesday, April 24th, at two o'clock, P. M. GEORGE C. OSGOOD, M. D., *Secretary*.

DR. W. L. RICHARDSON has been appointed secretary of the State Board of Health, *pro tempore*, to act during the temporary absence of the secretary, Dr. Charles F. Folsom, for about four months.

NOTE. — The name of the publisher of Maudsley's Physiology of Mind, omitted through inadvertence from our notice in the JOURNAL of March 28th, is D. Appleton & Co., 549 Broadway, New York.

BOOKS AND PAMPHLETS RECEIVED. — Hand-Book of Ophthalmology. By Professor C. Schweigger. Translated from the Third German Edition by Porter Farley, M. D., Rochester, New York. Philadelphia: J. B. Lippincott & Co. 1878.

The Advantages and Accidents of Artificial Anæsthesia. By Laurence Turnbull, M. D. Philadelphia: Lindsay and Blakiston. 1878.

Clinical Cases, Medical and Surgical. By the late John O. Stone, A. M., M. D. New York: G. P. Putnam's Sons. 1878.

Cyclopædia of the Practice of Medicine. Ziemssen. Vol. XVII. General Anomalies of Nutrition and Poisons. By Professors Immermann, Boehm, Naunyn, and Von Boeck. Translation. New York: William Wood & Co. 1878. H. D. Brown & Co., 67 Cornhill, Boston, New England agents.

Montreal General Hospital Pathological Report. By William Osler, M. D. Montreal: Dawson Brothers. 1878.

Atlas of Skin Diseases. By Louis A. Duhring, M. D. Part III. Philadelphia: J. B. Lippincott & Co. 1878.

Studies in Pathological Anatomy. By Francis Delafield, M. D. No. 2. The Pleura. New York: William Wood & Co. 1878.

Alimentation in Surgical Accidents and Diseases, and its General Value as contrasted with the Value of Medicine. By Frank H. Hamilton, M. D. (Hospital Gazette.)



# THE BOSTON MEDICAL AND SURGICAL JOURNAL.

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## LECTURES.

### LACERATION OF THE CERVIX UTERI.

CLINIC OF PROF. T. GAILLARD THOMAS FOR DISEASES OF WOMEN,  
COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

[REPORTED BY P. BRYNBERG PORTER, M. D.]

*Laceration of the Cervix, and Chronic Ovaritis.* — GENTLEMEN: In the two cases which I shall show you to-day there is probably nothing that you have not seen before during the course, but, nevertheless, I think you will be able to learn something from them. As I have had occasion to remark before, it is of great importance in attending a clinic like this to keep steadily in view the object of that clinic. It is certainly not to show you extraordinary cases, though some would seem to think that this should always be the aim of a clinical teacher. I venture to say that if I were about to perform gastrotomy to-day in a case of extra-uterine pregnancy there would be not even standing room in this amphitheatre. This, rather, should be your object in coming here. When you hear the history and diagnosis of the ordinary cases which come to the clinic, you want to know, first, how to make the diagnosis, and, second, what treatment to pursue yourself in similar cases, which you are likely to meet with constantly in practice. But some one may ask, Cannot we learn this from the text-books? Yes, you can in a general way, but it is impossible for instruction to be given as clearly and forcibly in this manner as by a clinical teacher who properly appreciates his duties and responsibilities. When you get into practice I doubt not that you will from time to time meet with cases which you will recognize as almost identical with some of those which are presented to you here.

The first patient whom I bring before you to-day is Mrs. Mary F., aged thirty-four years, and a native of the United States. She has been married ten years, and has had three children, but no miscarriages. The last child was born five years ago, and since that time she has never been well. Let us suppose, for the moment, that this patient had presented herself at the private office of any one of you. There are two important points in connection with the case which ought to have occurred to you at once on hearing what has now been told you. The

first is that the woman gave birth to three children during the first five years of her married life, and that during the last five years she has been sterile. The second is that the last child was born five years ago, and for five years she has been out of health.

It seems possible, therefore (or rather, I may say, probable), that something occurred at the time of the birth of the third child which has made her, first, an invalid, and, second, a sterile woman ever since.

Now let us question her a little further. Were you perfectly well up to five years ago? "No, not entirely." From what did you suffer? "I have always had more or less weakness even before my marriage." What symptoms have you noticed during the last five years? "Pain low down on the left side, for one thing." Do you feel this all the time? "It always comes on a few days before my monthly sickness." Is it relieved when the flow makes its appearance? "Yes, to some extent." What else do you suffer from? "Constant backache." Anything else? "A discharge all the time." Is it of a bloody character? "No, it is slimy and yellowish." Does this discharge irritate the parts over which it flows? "Yes, a great deal." There is nothing else that you complain of? "No, sir."

The history, you see, is a short one, and if she were a private patient of yours, as we have supposed, having heard it, you would, before going any further, recapitulate in your mind the symptoms of which she has complained, namely, sterility for five years, profuse and constant leucorrhœa, fixed pain in the back, from which she is never free, and pain in the left side, which is not constant, but which comes on before menstruation, while it is sometimes relieved when the flow makes its appearance, and sometimes continues until the latter has ceased.

It would next be your endeavor to relieve these various symptoms; but in order to do this intelligently it would first be necessary for you to make a physical examination, so that you might discover, if possible, the cause or causes of them. I will, therefore, now relate to you what I found on resorting to such physical exploration. In the first place, on inserting the finger into the vagina, the uterus seemed to be perfectly in position, and I became fully satisfied of this fact upon making conjoined manipulation, though the fundus could not be as distinctly felt in this case as in many others on account of the patient's being quite stout. The cervix was ascertained to be lacerated very badly, the lips of the os externum being torn widely apart, so that when I practiced conjoined manipulation the finger in the vagina passed almost up to the os internum. The fingers of the hand on the abdomen were next placed over the left broad ligament, in the region of the ovary, and though I was not able in this case to map out the shape of the latter, the pressure over it caused the patient a very considerable amount of pain. It is by no means always possible to find the ovary exactly by conjoined manipulation, even when it is more or less inflamed, unless it has slipped down



into Douglas's cul-de-sac, when it can usually be recognized without any difficulty. It is probable, then, that there is chronic ovaritis present in this case, and this would fully account for the dysmenorrhœa noted, which we therefore conclude (as we should indeed imagine from the time when the pain commences) is of the form known as ovarian dysmenorrhœa.

Let us turn our attention next to the symptom leucorrhœa, which is so prominent here. Is there anything found in the vaginal examination which will account for that? Yes, a condition which explains it most amply. The whole surface of the everted lips of the lacerated cervix is one large granular ulceration, so called, in which we find thousands of Nabothian glands irritated to the utmost, and pouring forth a constant and profuse discharge of ichorous matter. Then as to the back-ache, there is no doubt that it depends on a neuralgic condition of the nerves in and connected with the cervix. There is just as much reason that this neuralgic condition should exist here as that it should about your eye in case you were suffering from ectropion. The neuralgia in the back is reflex, the pain being transmitted in the same manner as that from a carious tooth is often transmitted to the supra-orbital region, giving rise to the most intense agony.

Finally, have we found a cause for the sterility, which has now existed five years? When the ichorous discharge poured out from the inflamed tissue of the cervix (even where there is no laceration present) is examined a short time after a woman has had sexual intercourse, it will be found full of zoösperms, it is true, but they are all dead. Their vitality has been entirely destroyed by this acrid material, and this is all the more likely to occur when there is a bad laceration, and when the discharge causes an irritation of the vulva, and even of the thighs, as in the present instance. Now the explanation given of these various symptoms may not be sufficient for all, but to my mind it is abundantly satisfactory in every respect, accounting for them fully, and therefore I do not think it worth while to look for any other.

The treatment is the next thing that concerns us, and so let us ask ourselves, What can we do to cure the different symptoms? Take the leucorrhœa, for instance. In the first place, it cannot be gotten rid of by treating the present condition of the cervix (on which we have found it to depend) as an inflammatory ulcer. If it could be done in this manner we might make applications of the hot iron, of caustic potassa, or of nitrate of silver. But here there is only one thing to be done, and that is to restore the lacerated cervix as nearly as possible to its normal condition by means of an operation. That, and that alone, will cure the leucorrhœa; and I say this in a double sense, namely, that only, and that of itself, will cure it. As to the vaginitis and vulvitis, which are due entirely to the irritating leucorrhœal discharge,

they may safely be let alone. When the leucorrhœa ceases they will cease too, for when the cause is removed its results will also be done away with.

Furthermore, as to the sterility and the backache : the same cause is the root of all the evils that we have seen. This is one of those curious cases in which we find one traumatic cause giving rise to all the various phenomena noted about it. One thing is left for us to consider, and that is the ovaritis. I should hope that even this, as well, would be cured, or at all events greatly relieved, by the operation of restoring the cervix ; for I believe that the irritation in the organ is kept up to a great extent in a reflex manner by the present abnormal condition of the cervix. But if it were not relieved by this means, I should expect that the patient would derive a certain amount of benefit, at least, by the adoption of the measures which I have so frequently mentioned for the relief of ovaritis, such as rest in bed for three or four days preceding the menstrual flow, counter-irritation, electricity, the use of bromide of ammonium, etc.

But, you may ask, would not vaginal injections be of service in getting rid of the leucorrhœa ? Certainly they would, but I should never think of depending on them for this purpose. Suppose a dentist had to treat a case of supra-orbital neuralgia depending on a bad tooth in either jaw ; would he not first extract the tooth, and thus get rid of the exciting cause ? After that he might apply electricity to the irritated nerves, or adopt such other measures as might facilitate a complete cure ; and in the same way we might make use of vaginal injections here after having performed the operation of which I have spoken.

Again, it may be asked, Would this woman in reality get well, or is this statement made only for the sake of rendering a clinical lecture more effective ? In reply I would say that it is my honest opinion that from the moment the cervix were sewed up our patient would commence to get better, and this improvement would go steadily on until she was completely well again, though of course the cure might be very much facilitated by the adoption of appropriate auxiliary measures in addition to the operation. One great disadvantage about such a clinic as this is that we are not able to perform such operations here, as it would be manifestly impossible to send the patients home after their completion. Neither can we perform them at the houses of these poor patients, for want of satisfactory arrangements, and it is therefore necessary that a case like this should go into a hospital for at least a few weeks ; but that involves quite a revolution in the little home circle, since some other person, perhaps a stranger, has to be brought in to look after the children and attend to the various household duties.

*Fungoid Proliferation of Lining Membrane of Uterus ; Laceration of Cervix and Perinæum.* — In the next case we have exactly the same



condition of the cervix (as far as laceration goes), and the patient has also met with another serious accident, which I will describe presently ; and yet it is not on account of the symptoms produced by either of these that she now comes to us to seek relief.

Her name is Mrs. Hannah S. ; she is a native of Ireland, is forty years of age, has been married twenty years, and has had ten children and one miscarriage.

When did you have the miscarriage ? “ Three months ago.” And how long have you been feeling badly ? “ Ever since then.” Were you quite well up to that time ? “ Oh, yes, quite well.” Have you ever had any particular trouble in your confinements ? “ No.” How was your first confinement ? “ It was rather easy.” The second ? “ It was easier than the first.” And the third ? “ That was easier still.” Then all your confinements were natural and easy ? “ The last one was not so easy as the others.” When did that take place ? “ Three years ago.” Now tell me what you have complained of for the last three months. “ A great flooding.” Anything else ? “ I sometimes feel something gather in my throat and then fall down.” (This sensation is probably the result of some nervous derangement due to the great loss of blood which the woman has sustained.) Is there anything else that troubles you ? “ Great weakness all the time.” And that is all ? “ Yes.” Are you able to work as you used to ? “ Oh no, I cannot do any work at all.” Why not ? “ Because if I do it always brings on the flooding worse.” Has the flooding been constant for the last three months ? “ Yes ; it has never stopped at all until last week, when the doctor gave me some medicine which stopped it.”

Now, gentlemen, having heard the patient's history, look at her face, and you will be convinced that she has told a true story ; her extreme pallor indicating that she has indeed lost an immense quantity of blood. As confirmatory evidence of this, I find both her pulse and respiration greatly accelerated. Her last labor, she says, was the most difficult of all that she has had ; yet it does not seem to have been followed by the slightest bad symptom, and, according to her own account, she was a perfectly healthy woman up to three months ago. There is but one symptom of which she complains, and that is excessive loss of blood, the weakness which she mentions being, of course, directly attributable to that.

Next, let me tell you the result of the examination which I made in the case. The perinæum was torn through completely to the anus, and the vagina was large and flabby, being in a state of subinvolution. There was a slight rectocele, and the walls of the vagina in general showed some tendency to protrude from the vulva. I do not know in which labor the rupture of the perinæum took place that was followed by the subinvolution of the vagina ; but, supposing that it was in the last

(though we have really no right to make such an assumption), for three years she has been going about and attending to all her work (until the last three months) just as well and with as much comfort as though there had never been any accident of the kind. In addition, as I have intimated, there is a laceration of the cervix quite as bad as in the last case. Notwithstanding this laceration, there is no vaginitis or vulvitis present, and she tells me that she has had no leucorrhœa. Indeed, no special symptom can be traced to the laceration, since she has apparently had no trouble whatever until within the last three months. Going on with my examination of the uterus I found that it was in a state of complete subinvolution, yet there has been no symptom referable to this abnormal condition. But three months ago she had an abortion, and we naturally conclude, therefore, that the flooding of which she complains as her only symptom is due in some manner to this accident.

Before proceeding any further, however, let me recapitulate the four conditions which we have found existing here. They are rupture of the perinæum, laceration of the cervix, subinvolution of the vagina, and subinvolution of the uterus; and, strange to say, they have produced, as far as we are able to make out, absolutely no symptoms. Yet how acutely the last patient suffered in consequence of the presence of a single one of them, — laceration of the cervix! These curious anomalies and contradictions occur not infrequently in gynæcological practice. Many of you will at once doubtless recall the two cases of prolapsus uteri which were recently before you. You remember how marked was the suffering of the patient whose uterus was in the first stage of the affection, while the one whose uterus, together with a portion of the rectum and the greater part of the bladder, was entirely outside of the body did not suffer at all, and came here only on account of the inconvenience which the rubbing of the thighs against the uterus hanging between them gave her. The lesson to be learned here is not to look at pathological facts as mere abstractions, but to direct the attention to such pathological conditions as will serve to explain the symptoms complained of in any given case.

Now this woman desires to be cured of the flooding which causes her so much weakness, and prevents her from attending to her work as she used to; and it makes no difference to her whether she has these lacerations and subinvolutions or not, or whether they are gotten rid of by her medical attendant or not, so long as this loss of blood is allowed to continue. When I made my examination here, I said to myself that none of the four conditions before mentioned had anything to do with the metrorrhagia, for the reason that they had existed so long before it commenced. In the other case I advised that the laceration of the cervix should be sewed up, because it was undoubtedly the cause of the patient's symptoms; but here you will be worse off than before if you



perform the operation. You will, perhaps, have made a perfect cervix, but the hæmorrhage will continue the same as ever.

What, then, is the cause of this constant and extensive loss of blood? As I have already intimated to you, I believe that the miscarriage which the patient had three months ago has had something to do with this. When you have such a hæmorrhage as this to deal with, do not talk vaguely about the change of life, the peculiar hyperæmia in the case, etc., but investigate the interior of the uterus, and find out what is really the cause of it. One word of caution here, however, — I should advise you never to introduce a sponge-tent into the uterus unless it seems positively necessary. You will hear some men speak flippantly about sponge-tents, as if there were no danger whatever attending their use, and I used to do so myself years ago, but I have known of too many cases of cellulitis, too many cases of peritonitis, and too many cases of death produced by them ever to do so again. Yet I am still constantly obliged to resort to them in my practice, though I always try to use them with the greatest caution.

As there has been an abortion here there are one or two things that immediately suggest themselves as possibly being the cause of the metrorrhagia. The first is that a portion of the placenta may have been left in the uterus. Quite recently a lady from West Point, in this State, who was suffering from uterine hæmorrhage and had lately had a miscarriage, consulted me at my office. I at once adopted a measure which I will mention to you presently, and as she could not remain then, sent her home until she should be able to stay in town for a few days, in order that I might dilate the cervix and make a thorough investigation of the interior of the uterus. In the mean while, however, she was ordered to take ergot, and as a result of this a small piece of placenta, which had been retained, was expelled by the force of the uterine contractions, after which she had no further hæmorrhage. If there were a retained piece of placenta in the present case it might be necessary to introduce a sponge-tent, but before doing this it would be worth while to find out whether the hæmorrhage might not be due to one condition which is more commonly than any other the cause of both metrorrhagia and menorrhagia, namely, granulations or fungoid growths upon the interior surface of the uterus. With this idea in view, I therefore introduced the little curette, which I have shown you several times before, and soon succeeded, much to my gratification, in drawing out quite a number of these minute polypoid excrescences, which I now present to you for your inspection. This instrument is made of copper wire, and it is so flexible that it is impossible to do any harm with it. It is used every week here at the clinic, and I have yet to learn of the first case in which it has done any injury whatever, while the amount of good that can be accomplished by it is almost in-

calculable. In the case of the lady just alluded to, I employed it when she first came to my office, but I did not succeed in finding any of these little growths, as in the present case. What has been removed from our patient, which I show you on this piece of paper, does not consist of little pieces of the lining membrane of the uterus, as some might suppose, because it would be impossible to dislodge them with such an instrument as this curette. They are fungoid proliferations of that lining membrane. There is no proof, so far as I am aware, that they ever develop into large mucous polypi, though I see no reason why they should not. In the present case I have not the slightest doubt that there are quite enough of them on the interior surface of the uterus to account fully for all the hæmorrhage noted.

If, then, all these granulations are thoroughly removed with the curette (and I propose to do this at once), all flooding will cease, and for the patient all evidence of disease as well. When I ask her if she thinks she would be a perfectly well woman in case the flooding were entirely stopped, she replies that she undoubtedly would, because she does not suffer from anything except the great weakness, which she regards as altogether due to the loss of blood. It may occur to you how much better she would be if the lacerated perinæum and cervix were only restored. Possibly she might, and if she desired it I would certainly perform the operations for her; but this is not what she comes to us for, and as long as these pathological conditions continue to give her as little trouble as they have hitherto done I do not think it is at all advisable to interfere in regard to them.

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## INCONTINENCE OF URINE IN CHILDREN.<sup>1</sup>

BY ARTHUR KEMBLE, M. D., SALEM, MASS.

WE are often called upon to relieve certain affections of the bladder, in which there is no appreciable lesion, and not infrequently disappointed in our attempt to do so.

Under the head of nervous diseases these affections are usually discussed, and include irritability, neuralgia, and paralysis, or conditions marked by increased, diminished, or perverted sensation. In irritability of the bladder we expect to find an exaltation of the nervous sensibility or hyperæsthesia of the mucous membrane, especially at the neck of the organ, by which it becomes intolerant of the presence of the urine, which is voided more frequently than is natural. A variety of this affection is peculiar to young boys and girls, in which the intolerance of the bladder occurs chiefly at night, during sleep. This form of

<sup>1</sup> Read at the regular meeting of the Essex South District Medical Society, February 5, 1878.



irritation, or perhaps I should say incontinence, sometimes disappears spontaneously, while at other times it resists all attempts of the physician to overcome it. When it depends upon local causes, which are curable, quick relief can usually be accorded; and when the incontinence arises from hyperæsthesia of the neck of the bladder or of the entire organ, if of recent occurrence, much hope may be felt that the disease will soon yield to the ordinary remedies. When, however, the morbid sensibility has long continued, it is usually followed by atony of the vesical sphincter. It is to this form of incontinence accompanying or occasioned by the atony of the vesical sphincter rather than to the atony of the whole organ that I shall refer at the present time. Electricity is no new agent in the relief or cure of disease, and is and has been often employed in atony of the whole muscular wall of the bladder, but it is the method of its application rather than the agent itself which I think promises to accomplish so much in the cure of the trouble referred to. In the few patients with whom I have employed it the progress of the relief has been so marked and so rapid that I have ventured to report a few instances of its remarkable benefit.

CASE I. Laura M., aged nine years, well nourished, and of good appearance, both parents being healthy, had frequent calls to void her urine during the day, and passed it involuntarily during sleep. This condition had existed for three years, resisting every form of treatment recommended by different physicians, as well as that adopted by myself. Having seen at about this time wonderful relief afforded a lady who had been troubled with this affection for ten years after a short course of electricity under the immediate direction of Dr. Guyon of Paris, I had made, after his design, a set of electrodes, and began the use of electricity on this little unfortunate. After passing the conical electrode into the bladder I withdrew it until it was grasped or resisted by the sphincter muscle. Then having a moistened button of chamois skin just above the pubes I connected it with Gaiffe's pocket battery, worked with bisulphate of mercury. With a moderately feeble current two minutes were allowed to elapse, when I removed the electrode. The little patient was at first somewhat alarmed at my manipulations, but complained of no pain, and said she felt a slightly warm sensation. On the following day the same proceeding was repeated, and the incontinence still remaining on the third day the same application was again given. At my visit on the fourth day the mother was profuse in her thanks, as her child had, for the first time in three years, passed the night without wetting the bed. I again used the battery during this visit, and also on the morning of the fifth day, when, she being then able to control her sphincter by day as well as by night, I concluded to omit treatment for a few days and learn if the improvement would be lasting. After the lapse of four days the patient was found to have

no incontinence during the night, but a slight tendency to the recurrence of the day symptoms. I again applied the electricity every day during the following week, when it was discontinued, and the patient, after an interval of eight weeks, now seems perfectly well.

CASE II. Julia T., ten years of age, of healthy parentage, had for two years caused herself much discomfort and her mother much annoyance by the habit of depositing a pool of urine on the carpet several times daily and sleeping in wet sheets at night. I had tried the usual drugs resorted to in such cases, but with no satisfaction to my patient or credit to myself. A few weeks since I commenced the employment of Guyon's electrode. The same course was pursued in this as in the first case, and during the past six weeks no symptom of relapse has shown itself, and the tonicity of the bladder seems perfectly restored.

CASE III. John W., twelve years of age, with good surroundings and tenderly cared for, would often be sent home from school with the appearance of having waded through some pond or pool, and every morning would present the bedclothes saturated with urine. This little fellow had troubled me much by refusing to take "nasty stuff," as he was pleased to term what I had flattered myself was a palatable dose, but if he was unwilling to give drugs a fair chance he positively refused to allow the administration of electricity. By coaxing and bribing he at last surrendered, and a small electrode was passed into his bladder. Every morning for the next six days he was subjected to the same treatment, when he could go to school and return home without the customary mishap. The nights, also, allowed him an opportunity of showing under what control his bladder was kept, and during the month of January no indications of the former weakness were observed.

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## DENTITION: THE SCARIFICATION OF THE GUMS OF INFANTS.

BY G. W. GARLAND, M. D., LAWRENCE, MASS.

THERE are many pathological conditions which seem intimately associated with physiological processes in the human system at all stages of life, all of which require cautious consideration and careful if not extended observation in order to avoid errors in practical conclusions. This remark will apply to the period of dentition and its dangers, as well as to any other period of life.

When a woman is forty-five or fifty years of age, no matter what her disease may be, if she has any, her physician will be likely, if he does not examine his patient carefully, to say, "This is the turn of life, madam, that you are passing through." So with a child five, six, or seven months old, "It is the coming teeth, madam, that are troubling



your child." The gums are at once scarified, and the physician retires with the comfortable confidence that he has made a correct diagnosis, because he has been taught by the books that the first two lower incisors appear at from the fifth to the seventh month, and that there is "danger" in dentition; and further, the symptoms of his patient are quite like those of some other child he has seen who was cutting its teeth.

It will not be necessary for me to mention the many circumstances and the numerous cases which directed my attention to this subject in my early practice. Some thirty years ago my observations led me to doubt some of the views entertained by authors on the influence of dentition on the health of children, and the necessity for scarifying the gums during that period, — a practice so highly recommended by Dr. Marshall Hall, of London.

The order and time of cutting the teeth are well known: from the fifth to the seventh month the two central lower incisors; from the seventh to the eleventh the four upper incisors, the two central appearing first and so on, till the first sixteen teeth are through the gums, as the books tell us.

It is also well known that most mothers return to their accustomed work, diet, habits of life, etc., long before their children are five months old, and that much the larger number of children are given all kinds of food, a bit from every dish upon the dining-table, not excepting meat pie or boiled ham, and that if a child is "brought up by hand" it is allowed a mixed diet weeks and months before the appearance of teeth. To these irregularities of mothers and nurses are due constitutional irritation, and the usual fretfulness, salivation, etc., — symptoms said to belong to teething, but which appear long before the teeth.

Every physician of experience is able to call to mind cases which have occurred in his practice, and which ended fatally, having all the so-called symptoms of teething at the age of three, four, or five months, such as stomatitis, more usually the aphthous or ulcerative form, enlargement of the submaxillary and lymphatic glands, ulcers of the frænum linguæ, etc., which often disappear in a week or ten days under treatment; febrile symptoms, with increased temperature of skin and rapid pulse. Nervous disturbances are also common, such as broken rest, crying, and spasms of the muscles of the face, or even convulsions of a severer kind. Any or all of the above conditions may precede as well as accompany dentition, and, in my judgment, they have no typical character.

That these symptoms may appear in an aggravated form during the process of dentition I do not attempt to deny, but it is chiefly because the irregularities of the mothers and nurses have existed longer and have had time to develop their baneful influences; and it is for this

cause that I wish to call the attention of the profession to the fact that the so-called teething symptoms, such as diarrhœa, "teething cough," skin eruptions, disturbances of the urinary system, catarrhal ophthalmia, etc., although they may be or are reflex in their origin, are frequently produced by indigestion, by improper diet, by the growth of the brain in childhood, as well before dentition as during that physiological period, and that the diseases of children require great discrimination in order to place upon each symptom its proper value or importance by searching out its absolute cause.

No one principle is more fully and firmly settled in medicine than the fact that pressure promotes absorption in all living bodies, animal and vegetable, and to my mind too much importance has been given by the profession to the effect during dentition of the resistance afforded by that delicate tissue, the gum of an infant, to a tooth advancing so slowly that it requires from five to seven months for an incisor to make its way through that tissue.

I fully believe—and my belief is based upon extensive observation—that the tumefactions seen over uncut teeth are due to injuries done to the gum by biting upon hard substances, a propensity to do which is caused by irritability of the nervous system, which may be and is produced by a great variety of causes, of which teething is one, and only one, as the same propensity to bite and "grind the teeth" is daily met with in children whose teeth have nothing to do with it whatever.

I am here reminded of an article published in the JOURNAL in 1875, written by Dr. Charles E. Buckingham, late professor of obstetrics in Harvard University, on Gum Cutting, in which he said, "I have never seen a case of fatal hæmorrhage from gum-cutting, and never spoke with a person who had seen one." On reading his article I at once wrote him a note telling him that I had seen two such cases, and received a letter of thanks from him.

The two cases were alike as to age,—eight months. The scarifying was done over the first two *upper incisors*. The two lower incisors were through the gum, and in each case the propensity to "grind the teeth" constantly plunged the two lower incisors into the scarified gum above; hence the bleeding. The children were of healthy parents, and were, as far as known, as healthy as children usually are at that age. The swelling of the gum over the upper teeth was caused by the pressure of the lower incisors, and the tumefaction invited the gum lancet. With the exception of "gum cutting" I can most fully indorse the article referred to, as well as many others furnished by Dr. Buckingham for publication.

If, as Dr. Marshall Hall observes, "the process of teething is one of augmented arterial action, and of vascular action generally," it is also one of augmentation of every other action caused by irregularity of



diet, etc.; and it is from many causes that the infantile sufferer labors under general neuralgic pains, colics, vomiting, diarrhœas, coughs, spasms, convulsions, in fact all the symptoms said to be associated with teething. It is the general constitutional nervous action and the nervous irritation which are the real causes of infantile suffering. The above are the natural phenomena, and being constitutional as well as local they present arguments against putting any dependence upon the simple local treatment of cutting the teeth, which fails in affording relief nine times out of ten, even where the gum lancet is used with skillful hand.

By extended observation I am convinced that the most intense suffering, fever, etc., with which infants are afflicted is frequently met where the teeth do not press upon the soft parts at all, and their forms are hardly perceptible upon the gums either by the eye or by the touch of the finger.

We may safely affirm that there is but little danger from dentition so long as the kidneys act freely, and the same remark will hold true in most cerebral affections of children produced by sympathy. Every practitioner of experience can turn his thoughts back to some little patient who caused the deepest solicitude. They will remember that while the sufferer lay in a half-comatose state, turning his head from side to side, they learned with infinite anxiety that he had not passed urine for the last twenty-four hours.

I refer to the above condition for the purpose of saying that in my opinion this moment of intense concern and point of imminent danger may often be avoided by early and repeated stimulation of the kidneys with the nitrate or some other form of potassa, and not by cutting and recutting the gums over undeveloped teeth.

In my judgment scarifying the gums of children is a hobby well-nigh broken down by too many riders, who have had no clear notions of where they were to go, or the physical ability of the nag they had mounted.

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## RECENT PROGRESS IN MILITARY SURGERY.

BY G. A. OTIS, M. D.

OLD John Radcliffe, who bequeathed forty thousand pounds for a library at Oxford, which erected an edifice so magnificent and costly that there was no money left to buy books, evidently loved paradoxes: he kept his own collection of medical literature piled in a window-seat, and said that he could write the whole art of physic on half a sheet of paper. He would, doubtless, could he revive in our day, view with amazement how the field of the collateral sciences has so amplified, and the special branches of the medical art have so multiplied, that the *JOURNAL* requires a weekly installment of crowded octavo pages to chronicle the recent progress and advances in the several

provinces. But increase of knowledge, we are taught, is like no other growth, but is often accompanied by a shrinkage in its bulk. Although the avenues of medical and surgical inquiry are augmented and multiplied, the methods of research become more simplified and uniform, and in every direction the advances and progress consist in the demolition of former errors and the substitution of practices conformable to more general and uniform principles, quite as much as in the proposition of novelties and complex refinements. "The simplicity of an operation is the measure of its perfection," said the excellent Desault, and, although he designed the three-roller bandage for fractured clavicle, and the straight splint and spiral roller for fractured femur, these were but simplifications of means borrowed from the arsenals of Vidius Vidius and Scultetus,<sup>1</sup> subordinating them to the cardinal principles of coaptation that must ever maintain their ground.

In noticing recent advances in military surgery our attention is naturally first attracted to the discussions on the treatment of wounds that have arisen in connection with the last two colossal struggles, the Franco-German and the Russo-Turkish wars, and especially to the urgent advocacy of methods so diametrically opposed as the open treatment or method of aeration, as it is called, and the antiseptic method or Lister treatment, as it is denominated, in continental Europe.

*Open Treatment of Wounds, or Aeration Method, and Lister's Antiseptic Dressing.* — A concise and admirable summary of the discussions on these antagonistic methods, with a historical retrospect, was laid before the readers of this journal in July, 1874, by Dr. F. W. Goss, of Roxbury,<sup>2</sup> and hence the more recent researches and statistics on the subjects will be noticed here, and more especially in their relation, to military surgery.

The Surgical Society of Moscow, in November, 1876, organized a commission on the treatment of wounds, with a view of elucidating definitely the conclusions established beyond doubt in the discussions and investigations prosecuted by the Surgical Society during a period of three years, and of presenting a brief and clear exposition of these conclusions to be propagated usefully among practitioners. It was held that the new treatment of wounds, unanimously indorsed by the society, deserved special attention, not only because of the rational and original features of its provisions, but on account of its economical and administrative relations at a juncture when the Russian armies were being mobilized, and the military hospital establishments organized on a vast scale. The commission drew up a report, prefaced by an explanatory memoir on the principles of the method of aeration, as it was designated by the reporter, Dr. S. J. Kostarev, and on its practical applications, and published, in 1877, versions of the report in both the Russian and French language.<sup>3</sup> The report, signed by the president of the commission, Dr. G. Savostitzky, and unanimously indorsed by the society, presented the following conclusions: —

"(1.) The principle of immediate and free contact of the wound with the ambient air,

<sup>1</sup> Vidius (Vidius). *Chirurgia à Græco in Latinum conuersa*, Vido Vido Florentino interprete cum nonnullis eiusdem Vidi commentariis. Fol. Lutetiae Parisiorum, 1544, pp. 444-6. Scultetus (Johannes). *Armentarium chirurgicum bipartium*, Francofurti, 1666.

<sup>2</sup> Goss (F. W.), *The Dressing of Wounds*. Read before the Massachusetts Medical Society, June 2, 1874; in *Boston Medical and Surgical Journal*, 1874, vol. xci., page 73.

<sup>3</sup> *Traitement rationnel des Plaies. Methode d'Aeration. Rapport, etc.*, Moscow, 1877, 8vo, pp. 42.



or the principle of aeration, is higher, more rational, and more practical than the principle of protecting the hurt surface against the action of the air.

"(2.) The general method of the treatment of wounds, elaborated by the Surgical Society and termed method of aeration, should now be recognized as most rational: for, on the one hand, it reposes upon a knowledge of essential anatomo-physiological properties common to all wounds without exception, as well as on the external agents, to the influence of which our bodies are continually exposed; and, on the other hand, it is entirely confirmed by a multitude of facts and clinical observations.

"(3.) The leading and essential rule of the method of aeration consists in avoiding in every way, in the local treatment, injurious conditions of the exclusion (*non libre accès*) of air, and to place the wound in conditions favorable to the free and immediate contact with the latter (*aeratis*).

"(4.) Consequently every porous body laid on the surface or in the depths of a wound should be regarded as a directly noxious element.

"(5.) If any extraordinary circumstances render the use of such bodies inevitable, it is of the last necessity to transform them by means of certain procedures into non-porous agents, endowing them in every case with energetic disinfecting properties.

"(6.) Lint and other similar substances, as well as rags of all sorts, ought never to be used in hospitals as deleterious dressing materials.

"(7.) One of the fundamental rules of the treatment of wounds by the aeration method consists in seeking invariably, if anatomical conditions allow, cure by first intention. In all amputation wounds this rule is invariably necessary.

"(8.) In order to attain healing by first intention according to the rules of the aeration method, catgut should be used for the ligation of vessels and metallic sutures for the solid union of the wound.

"(9.) In treating suppurating wounds, or granulating surfaces in general, attention is requisite that granulations should be covered with an adequate layer of secretions, liquid or dried; in the contrary case it is useful to cover the surfaces with some semi-liquid substance (disinfected), or else to form a dry eschar with the aid of liquid caustic.

"(10.) For the treatment of granulating cavities, as abscesses, fistules, etc., the cavity should, with the same purpose conformably to the anatomical conditions, be filled with some mucilaginous liquid, either simple or with the addition of disinfectants.

"(11.) The aeration method surely guarantees wounds against nosocomial infections and septic complications.

"(12.) In banishing dressings, restricting to the last degree suppuration in the patient's ward, and thereby foci putrefaction, the method of aeration promises an essential amelioration of the sanitary conditions of hospitals in their constitution.

"(13.) The reasonableness of the measures, the slight cost (*beau marché*) of the material (*utilage*), the facility of application and supervision, as well as the possible rapidity of the cure of patients, assures for our method of treatment a most brilliant future.

"(14.) Now, in the presence of an impending war, physicians are seen everywhere teaching the care of the sick to all who desire to devote themselves to that sacred task of Christian mercy; it is specially to be desired that the knowledge of the new method, regarding which doubt is no longer possible, either respecting its practical application or the inevitable necessity of minutely adopting it, should be rapidly diffused; more particularly as its general precepts are so simple that it suffices with a few explanatory words to demonstrate to the student in the wards of the wounded treated by this method not to doubt of their knowledge of the new procedures and of all that may be required of them."

This series of conclusions requires, it must be admitted, the elucidation of the two parts of the report furnished by the Moscow commission, — the first on the origin and principles of the aeration method, the second on its practical applications, — and also the prefatory explanatory memoirs; but the digest of the academic debates, and summary of clinical observations and hospital statistics that are alleged to demonstrate irrefragably the principles formulated in the conclusions, yet remain in the Russian language, and, in part, still "in press."

The commission commences by laying down that, in the present state of science, only two methods of treating wounds can be admitted as rational: the method without dressings, and the disinfectant method, that is, the antiseptic method of Lister. It adds that "for amputation wounds the method without dressings is preferable." Further, the commission points out that its treatment of wounds without dressing, or by the aeration method, differs radically from the open treatment of wounds of Dr. Bürow, of Königsberg, and Dr. Rose, of Zurich,<sup>1</sup> inasmuch as the latter formally adopts as the basis of the

<sup>1</sup> In 1859, Dr. A. Bürow, of Königsberg (*Ueber die Ursache der häufigen Todesfälle nach Amputationen in Deutsche Klinik*, 1859, page 207), urgently recommends that the stumps after amputations be treated without any dressing whatever. He tabulates sixty-two operations treated in this manner: —

15 amputations of thigh.	12 recoveries.	3 fatal.
11 amputations of leg.	11 recoveries.	
20 amputations of arm.	20 recoveries.	
15 amputations of fore-arm.	15 recoveries.	
1 amputation of foot.	1 recovery.	
—	—	
62 amputations.	59 recoveries.	

A fatality of 4.8 per cent. Dr. Bürow applied no dressing, and did not unite the wound until about half an hour after the operation. He contended that the too early closing of the wound and the bandages universally employed after operations were the principal causes of the deplorable results of a large percentage of operations. In 1866, Dr. Bürow (*Ueber den nachtheiligen Einfluss der Verbände bei Amputationen*, in *Deutsche Klinik*, 1866, page 217) laments the indifference with which his experience has been treated, and the stubbornness with which one clings to the old with the imbibed prejudices.

In the fall of 1867, Professor Dr. E. Rose made the open-wound treatment a rule in the clinico-surg. division of the county (Kanton) hospital at Zürich. (See Schräml, *Das neue Kantonale-Krankenhaus zu Zürich*, Zürich, 1865; and Billroth (Th.), *Chirurgische Klinik*, Zurich, 1860-67. Berlin, 1869.)

Dr. Goss, in the memoir on the dressing of wounds, read before the Massachusetts Medical Society (see *Boston Medical and Surgical Journal*, 1875, vol. xci., page 78), has quoted from Dr. Krönlein's work (*Die Offene Wundbehandlung*, Zurich, 1872) the result, of Professor E. Rose's treatment in the Zurich hospital from 1867 to 1871, when the open treatment was pursued systematically, compared with the period from 1860 to 1867, when Professor Th. Billroth had charge of the surgical wards and the wounds were covered in the ordinary way. In modern times Vincenz Kern, the eminent teacher of surgery at Vienna in the earlier years of this century, should be regarded as the leading propounder of the open treatment of wounds. Jung Ken (Ch.) (*Bemerkungen auf einer Reise über Wien und München nach Italien im Jahre 1818*, in *Journal für Chir. und Augenheilkunde*, B. i., Berlin, 1820, page 526) relates that in Kern's clinic at Vienna "the highest simplicity in the treatment is the ruling law; . . . charpie and tents are entirely banished from this clinic, and compresses, pledgets, and bandages as far as used in the treatment of wounds;" and, on page 530, gives the following as Kern's motives for this treatment: "The usual modes of dressing after amputation are unsuitable as means to promote healing, and should be rejected for the following reasons: (1) they keep the stump too warm, and accelerate traumatic inflammation and suppuration; (2) they are frequently the cause of parenchymatous bleedings between the wound surfaces, the usual dressings with strongly adhesive plaster acting mechanically and chemically as irritants on the wound surfaces; (3) they hinder the formation of a good fleshy stump. On the same principle Von Kern recommended the treatment of shot wounds during the Napoleonic wars. In his work, *Anleitung für Wundärzte zur Einführung einer einfachern, natürlicheren, und minder kostspieligen Methode die Verwundeten zu heilen*, Stuttgart, 1810, he exhorts surgeons to treat by this more simple, more natural and less costly method shot wounds that cannot be healed by first intention. In 1826, Vezin (Hermann) (*Ueber Behandlung der Amputations stümpfe*, in *Deutsche Klinik*, Nos. 6, 7, 1856, pages 70, 79) relates that with surgeon Bartscher he was led to the open treatment of fresh amputation wounds thirty years ago. For twenty-one years they treated at the city hospital at Osnabrück all cases of amputations, twenty-eight in number, in this manner, with the following favorable results: —

Amputation thigh,	cases 14	Recovered, 12	Fatal, 2
Amputation leg,	cases 6	Recovered, 5	Fatal, 1
Amputation arm,	cases 4	Recovered, 4	
Amputation fore-arm,	cases 2	Recovered, 2	
Amputation foot,	cases 2	Recovered, 2	
—	—	—	—
	28	25	3

Neither secondary hæmorrhage nor necrosis of the sawn bone surface was observed in any of these cases. In 1826 Philip von Walther (*Ueber die topische Behandlung und über den Verband der eiternden Wunden der Abscesse, Geschwüre, und Fisteln*, in *Jour. für Chir. und Augenheilkunde*, 1826, B. ix., page 178) uses the following strong language: "The surgical bandaging as it exists to-day, and as it appears in our text-books, ornamented with grotesque pictures, is for the greater part to be considered as a monument of human folly and of the most ridiculous absurdities. . . . Wounds, abscesses, ulcers, and fistulæ can be cured by omitting two thirds of what is prescribed by the rules in vogue at the present day."



treatment of wounds the principle of non-intervention, and directly excludes the possibility of healing by first intention.<sup>1</sup> It was these features, according to the commission, that led surgeons to shun the open treatment, and inclined them to accept with sympathy Lister's plan. The commission views with astonishment the phenomenon of two modes of treatment, diametrically opposed in their procedures, yet yielding equally good results, being insufficient to elucidate the enigma. "Some attempts made abroad only demonstrated the impotence of the western intellect to solve the riddle. Evidently no rational treatment was imaginable until contradictory facts were reconciled, and the relations between them and the morbid cause of the complications of wounds were completely understood." The commission claims that it has perfectly explained the relation between the open and the Lister treatment, and pronounces the latter only the counter-proof of the former. It contends that the good results of the open treatment prove indubitably the harmfulness of ordinary dressing, and that Lister proposes a dressing that is not harmful. "If, on the one hand, neither the air nor aerial agents of putrefaction do not in themselves exercise any hurtful influence upon the wound, and become hurtful only in the presence of a bandage, is it not evident that the materials employed by Lister are endowed with the property of rendering the pernicious elements of the bandages inoffensive? The bandages are disinfected; for these disinfection becomes a necessity! Every dressing presents a hurtful element to the surface of the wound; its complete disinfection is with difficulty attained; every thread at the surface or in the depths of the wound is consequently harmful in that it disturbs the favorable relations between the open wound and the ambient air, introducing there the element of the bandage, — an element of isolation, infringing the principle of aeration, the rigid observance of which constitutes the positive side of the treatment and the principal cause of its success. This positive side once discovered in the rigorous application of the principle of aeration, and the principal value of this measure being understood, it was easy to propose to remove all its known disadvantages directly, and boldly to unite wounds, employing only metallic ligatures or catgut, so that not a thread should infringe the principle of aeration. Thenceforward the expulsion of lint and rags from hospitals could easily be predicted."

*(To be concluded.)*

<sup>1</sup> According to our understanding of their teaching, the commission are at fault in confounding the practice of Bürow and Rose in carrying out the open treatment of wounds. Dr. Bürow in treating amputation and other fresh incised wounds, after thorough cleansing of the cut surfaces, waited until oozing had ceased and the surfaces had glazed with lymph, and then united them with sutures, or following precisely the same course as John Bell, Liston, Syme, Stromeyer, Pirogoff, and Mr. Spence, in our day. On the other hand, Professor Rose, as well as Bartscher, Vézin, and Passavant, as reported by Dr. Krönlein (*Die offener Wundbehandlung*, Zürich, 1872, page 23), abandoned attempts at healing by first intention, trusting to healing by granulation. Dr. Krönlein remarks: "The secret of the open-wound treatment and its excellent successes is therefore not a *specificum*; it is not carbolic acid, not quinine, not air, not water; its secret, for the greater part, lies in the strictly carried out principle not to interfere in the healing process of the wound unless there are urgent reasons therefor, but otherwise to allow nature to have its own sway."

PROCEEDINGS OF THE MIDDLESEX SOUTH DISTRICT  
MEDICAL SOCIETY.

C. E. VAUGHAN, M. D., SECRETARY.

THE society held a meeting for medical improvement at Natick, January 16, 1878, the president, DR. HODGDON, in the chair.

*Malignant Tumor.* — DR. MARCY showed a malignant tumor from the abdominal cavity of a boy of three years and four months. During life the tumor was hard, painless, resembling a fibroid, and was considered probably malignant. The autopsy showed an irregular, nodular mass as large as a foetal head at full term, and weighing over three pounds. Internally caseous degeneration had begun. The tumor apparently originated behind the kidney, pushed upward behind the peritonæum, compressing the ureters, the rectum, and the other contents of the abdomen. The kidneys were anæmic and sacculated. West speaks of three or four cases of malignant disease of the liver or kidneys in children.

DR. NICHOLS had seen a boy of ten years who had a large encephaloid mass in the chest, compressing the organs to a great degree. He also mentioned a cast, in the museum of the Harvard Medical School, of a malignant mass originating in the orbit of a boy of six years.

DR. HALL spoke of a tumor in the right iliac region of a child of seven years. It was considered by Drs. Calvin Ellis and Samuel Cabot a malignant growth from the kidney. The mass enlarged greatly before death, compressing the abdominal viscera and the lungs.

DR. HODGDON had seen a case in which encephaloid tumor developed in the thigh of a boy ten years of age after violent exercise. The thigh was amputated. Three months later what seemed to be pneumonia appeared. Dr. G. H. Gay saw the case in consultation. There was dull percussion, and much diminished respiratory murmur. The child died, apparently from asphyxia. There seemed to be an extension of the disease from the thigh.

DR. MARCY showed photographs of a German glass-blower before and after removal of a tumor of the nose. The father of the patient died with malignant disease.

*Chloral Hydrate.* — DR. M. L. BROWN read a paper upon chloral hydrate. It was discovered by Liebig in 1832, but brought into use by Liebreich in 1869. The process of manufacture of chloral was briefly described.

When taken into the system chloral is decomposed by the blood as by other alkaline fluids, and chloroform passes to the ganglionic cells of the brain, then to those of other nervous centres, and is finally eliminated as chloroform. This is the view of Dr. Richardson and others. It causes deep sleep, quiet and natural, with no after-effect. When it is carried farther anæsthesia is produced, with no marked depression. There is no excitement, as in the second stage of anæsthesia, by inhalation. In fatal cases of poisoning by chloral, first, the cerebral functions are affected; second, voluntary motion; third, reflex excitability; fourth, the action of the heart. By a sufficient amount the blood is decomposed.



Chloral may be used in cases where opium is contraindicated, as it does not arrest secretion nor produce congestion of the brain. In fevers and inflammations it reduces the temperature, and retards the deposition of fibrine. In cholera it often succeeds, and is seldom vomited. It may be used hypodermically.

Mr. W., aged thirty-seven, had severe cholera morbus. The usual remedies were tried for twelve hours. The discharges persisting, and collapse threatening, half a drachm of chloral was given. This was vomited, but fifteen grains in half an hour, preceded by the application of mustard to the epigastrium, was followed by relief.

Mr. A., thirty-five, had cholera morbus after exertion and exposure. Homœopathic treatment was fruitless. General cramps and collapse came on. Chloral in dose of forty grains was vomited. After a mustard paste to the epigastrium and a dose of sodium bicarbonate, a half dose was retained, and repeated in an hour. Relief followed, and rapid recovery.

Chloral produces muscular relaxation. It may be used in tetanus, renal colic, strangulated hernia, puerperal convulsions, chorea, etc. Toward the close of the first stage of labor, when pains are sharp and hard to bear, it is useful.

Mrs. C., a large woman, miscarried. The vagina was hot, the os hard and unyielding, and pains were severe. Morphia, extract of belladonna to the os uteri, warm douche, etc., gave no relief. Chloral produced sleep and relaxation of the os, and the fœtus soon came away.

The dose of chloral may vary from one to sixty grains, according to age and weight. A small or medium dose is safest at first. For infants, one grain for each year may be used.

Dr. HUNT doubted the power of chloral to arrest secretion in cholera morbus. It is disagreeable to take, and he preferred opium.

Dr. WRIGHT said that he used ginger as a vehicle, and found no trouble in giving it.

Dr. MARCY mentioned a man who took an ounce by mistake. He could not be aroused for four or five days, but recovered with no ill effects. A strong young woman took a drachm after a restless night, and died within an hour. The autopsy showed no cause.

Dr. NOTT gave chloral to a child of five years in four-grain doses for whooping-cough. The cough stopped, and the next morning a rash resembling that of scarlatina appeared. There were no other symptoms. As the rash faded the cough returned. Chloral was used again, and again was followed by the rash.

Dr. STEVENS, of North Cambridge, reported a case of chronic chloral poisoning six months after recovery from delirium tremens. There was nervous excitement and debility, fœtid breath, œdema of the face and limbs, and frequent vomiting. Nine drachms per week had been taken.

Dr. DRIVER spoke of the external use of a chloral lotion (four grains to one ounce) in indolent ulceration of the skin, throat, vagina, etc., from various causes. Comparative experiments in a large English hospital place this treatment among the first as to success.

DR. J. A. DOW recommended equal parts of gum camphor and chloral for external use in neuralgia.

DR. EDGERLY had seen good effects from the application of a chloral lotion (one drachm to one ounce) to the epigastrium in obstinate vomiting.

DR. NICHOLS had used chloral in three cases of puerperal mania. In one case mania became severe a week after labor, with constant excitement and bad general condition. A scruple of chloral was followed in five minutes by sleep, lasting two hours. Six doses were given in the course of the night, with the same result, and very great improvement resulted.

DR. Z. B. ADAMS reported a case of epileptiform convulsions. In a child of five years, the attacks, beginning at the age of three years, had become almost incessant. The symptoms were those of true epileptic convulsions, namely, loss of consciousness, strabismus, etc. The attacks ceased entirely after the use of chloral. A recent return of the fits was arrested in the same way.

*Thrombus of the Vulva.* — DR. NICHOLS reported a case of thrombus of the vulva. A poor woman was delivered by Dr. Gould, of Somerville. Two hours after he was recalled, and found a large tumor distending the left labium, which ruptured internally in examination, and discharged a large quantity of blood. In a few hours it was as large as before in spite of compression. Seen eight hours after labor: tumor then very large; pain severe; great exhaustion. Dr. Gould enlarged the opening, cleared out the clots, and plugged the cavity with tow soaked in perchloride of iron. Pain was relieved at once in spite of the size of the tampon, and recovery was rapid.

*Diphtheria.* — DR. WRIGHT spoke of a class of cases, of which he has lately seen a great many, in which there is soreness of throat, generally white exudation, more or less firm on the tonsils, and fever. Recovery is generally quick, without any of the alarming symptoms or sequelæ described in the books. Illustrative cases were mentioned by Dr. Wright and others, and a brisk discussion ensued, in which the opinion was strongly expressed by many that such cases should be considered and treated as diphtheria. DR. DRIVER thought that diphtheria, as it has spread and increased during past years, has departed from its original regular type, and become protean, taking many forms and modifying other diseases. Safety lies in care and watchfulness.

DR. VAUGHAN, to illustrate the danger of trusting to a fancied difference between a "diphtheritic throat" and diphtheria, mentioned an intelligent family in which six cases were treated by domestic remedies for nearly two weeks. The family came under his observation only after the disease in the youngest relapsed, and membrane formed in the larynx. Later, paralysis of the palate and strabismus have occurred in two of the children.

DR. EDGERLY said that in one court in Cambridge in July and August, 1877, there were fifteen cases of diphtheria, some fatal, and not one case of dysentery, which was then prevalent in other parts of the city.



PROCEEDINGS OF THE WORCESTER ASSOCIATION FOR  
MEDICAL IMPROVEMENT.

GEORGE J. BULL, M. D., SECRETARY.

JANUARY 9, 1878. *Epilepsy*. — DR. PARK read a paper on Some Characteristics of Epilepsy which are of Interest to the General Practitioner. Obscure, nocturnal, dangerous epilepsy, and some of the medico-legal aspects of the disease, were described, and special attention was called to the fact that the administration of drugs which increase the interval between the fits may produce a state of irritability and excitement which will very likely develop into epileptic mania, the most dangerous in its character of all the forms of mental disturbance.

The following recapitulation embraces the points touched upon in the paper : (1.) There is a form of epilepsy termed mental or masked epilepsy, the true nature of which may not be recognized by the general practitioner, the diagnosis being obscured by the fact that it is not always accompanied by the usual symptoms of vertigo or convulsions. (2.) If the physician is called to see a child whose whole disposition has changed, who, from being mild, gentle, pleasant, and agreeable, has become irritable, morose, impulsive, and forgetful, excessively nervous, apt to prevaricate and even steal and secrete articles, oftentimes of no intrinsic value, though before he was particularly truthful and honest, and if, in addition, his bed is sometimes soiled, his pillow discolored, and his tongue sore, he should suspect nocturnal epilepsy, and make such further investigations as may be necessary to confirm the truth of his suspicions. (3.) That an epileptic who has *once* made any really violent demonstration, even though unattended with serious results, is an unsafe person to be at large in the community. (4.) That the administration of bromide of potassium, or any drug which interrupts the natural recurrence of the epileptic convulsions in confirmed epilepsy, frequently produces psychological manifestations which may be attended with results dangerous to the patient and to others.

DR. QUINBY remarked that in many cases of undoubted epilepsy convulsions are not present, the only distinctive mark being loss of consciousness. It is agreed that this loss of consciousness may be of so brief a duration as to fail to be recognized as such by the patient himself, or to attract the attention of those about him, while some authorities go so far even as to deny that complete unconsciousness is necessary to the epileptic state. What is especially worthy of note is the fact that the intensity of the nervous manifestations bears no direct relation to the degree of mental disturbance which may follow an epileptic attack. Frequent attacks of vertigo, loss of consciousness, irritability, failure of memory, change in disposition, and loss of moral sense are some of the symptoms which should lead us to suspect epilepsy. The post-mortem appearances in the brains of epileptics do not differ from those in the chronic insane generally, and it is altogether probable that any morbid change taking place at the base of the brain may produce epilepsy. Of the cases seen in general practice a small number are undoubtedly curable, while those found in hospitals for the insane are generally cases of long standing, which

have already been subjected to the most varied treatment, and which we can hardly hope, therefore, to benefit by further medication. Two years ago we tried ergot upon all our epileptics, giving the remedy in drachm doses three times a day for a period of three months, and then discontinuing it and giving a placebo for the next three months. This had no apparent effect in lessening the number or frequency of their fits.

DR. CLARKE said that the observation of the reader in regard to these dangerous effects of the bromide of potassium were new to him, but he was glad to be made aware of them. In his experience, which might be considered large for a physician in general practice, no such results had been noticed. He believed the remedy to be of more value in the treatment of epilepsy than all others together. It is beneficial in nearly all cases, and in some it effects a permanent cure, or what at present seems so. He instanced several cases in support of this statement.

DR. JOSEPH SARGENT said that in speaking of epilepsy we should exclude the epileptiform convulsions of infancy, which oftenest cease to recur when the period of infancy is passed. Also, he said, it is difficult to refer epilepsy to any morbid anatomy, and least of all to any deformity of the sella turcica, to which it was suggested it might be referred in the first course of lectures on anatomy which he heard, many years ago. How can we explain a disease whose intervals are often so long by a condition which can scarcely continue? Dr. Sargent reported cases where, after repeated epileptic attacks with short intervals between the ages of sixteen and twenty, in male and in female patients, there had been an interval of several years and then a recurrence in very aggravated form, fit succeeding fit, with no return of consciousness for several days, sometimes with fatal result. Dr. Sargent reported three cases of this kind, two of which were fatal. Of the fatal cases one was a woman who was exempt from the age of seventeen to the age of twenty-four, and then from the age of twenty-four to that of thirty-four, the period of exemption not being occupied by treatment. The other fatal case was that of a young man, also untreated, in whom the interval was ten years. He said that Dr. Woodward the elder used to rely very much upon the use of stramonium and nitrate of silver in this disease, and we are all in the habit of seeing in our streets a gentleman of accomplishments whose skin is everywhere bronzed after the use of nitrate of silver, which was not administered under Dr. Woodward's direction. This person was a confirmed epileptic, and now has had no attack for more than thirty years. Dr. Chandler used to think that stramonium suspended the disease. Of late years we all use the bromides, and we seem to procure much more relief than we had been accustomed to witness.

DR. EASTMAN said: In lunatic hospitals we rarely see epilepsy cured, for the reason that the curable stage is passed before the hospital is resorted to. Many cases, however, improve on account of regularity of life and suitable diet as well as of proper medical treatment. Improper diet is sometimes the original cause of epilepsy, and very often the immediate cause of the fits and the greatest obstacle to their cure. Epilepsy in young persons, where the diet and habits can be controlled, is often cured if properly treated before the disease has produced effects which seem to be, as it were, secondary foci of the disorder. There is no specific for this disease. Almost everything has been



tried and claimed to be the panacea. The truth is, almost every drug capable of causing a profound impression on the nervous system will in certain cases greatly diminish, for a time at least, the frequency of the paroxysms. Epileptics constitute a most dangerous class of inmates of lunatic hospitals. Their delusions are often of personal violence, which they seek to avoid or revenge. Serious violence may be done by an epileptic in a momentary unconsciousness, whence arise some of the most interesting medico-legal cases. Every confirmed epileptic is liable to become dangerous suddenly.

DR. WOODWARD said that the curability of the disease decreased in proportion to the length of time it had existed in the patient. We now look upon it as curable in a certain number of recent cases. Not many years ago an epileptic was abandoned to his fate, but now, even if he cannot be cured, he can at least be greatly relieved by judicious treatment. Dr. Woodward's father had had a very large experience in the disease. He used stramonium, with nitrate of silver and nux vomica. In certain cases he got good results from digitalis with stramonium. Dr. Woodward adhered largely to his father's old prescriptions, though he had faith in the bromides and used them constantly. Any treatment which postpones the attacks or renders them lighter is valuable, even if it does not cure. He had known the disease to recover by the spontaneous effort of nature in a few cases. He had great faith in surgical interference when the disease followed blows upon the head. Remarkable results obtained by the use of opium alone, a remedy which was entirely interdicted in the disease but a short time since, had lately been published. From his own experience he had a growing confidence in it.

DR. WHEELER said: Until facts take their place, the best method we have of working toward the truth is by means of theories. In this connection and in view of the unsatisfactory state of the pathology of epilepsy which we have heard explained, it seems to me that the "nerve-storm" theory is worthy of study. Even if untrue, it suggests many interesting analogies, and its study is instructive. The idea is that a class of neurotic diseases (epilepsy may be taken as an example) are brought on through a vicious, nervous diathesis, under which there is at intervals an accumulation in certain limited tracts of a morbid amount of nerve force and unhealthy increase of nerve tension, which a slight cause seems to disperse in a violent way in the form of a nerve storm. The form of the discharge depends upon the territory in which the morbid accumulation has taken place. In one individual it is the medulla and the discharge is epilepsy, while in another it is the thalamus opticus and the discharge is migraine; in others it will take the form of mania, neuralgia, or hysteria, catalepsy, gout, or asthma. These accumulations and discharges are held to take place in accordance with a general law, valid in health as well as disease. Instances in health are sneezing, weeping, hunger, the sexual appetite. Moreover, health and disease are as indefinitely separated here as elsewhere; any of these physiological phenomena may become morbidly excessive. One form of dispersion may take the place of another form, whether physiological or morbid, as when fright displaces hiccough or migraine, epilepsy or gout takes the place of migraine, or a fit of laughter acts vicariously for an epileptic fit. This may be done artificially, as where vomiting is made to take the place of an asthmatic explosion.

MEDICAL EDUCATION IN THE UNITED STATES.<sup>1</sup>

THIS report was prepared by the author at the request of the Department of the Interior as a part of the work of the Bureau of Education in preparation for the Centennial Exhibition. In facts and language it is, of course, not unlike the centennial address upon medical education delivered by him before the International Medical Congress at Philadelphia.

Dr. Davis gives a brief sketch in the beginning of the condition of medical matters in America previous to 1776, at which time there were three or four thousand practitioners and two medical colleges in the thirteen States. The history of the following thirty years is then given, embracing a particular account of the foundation of the seven medical colleges organized during that period, of which but five survived, constituting the medical departments of the University of Pennsylvania, of Harvard University, of Dartmouth College, of the University of Maryland, and of the College of Physicians and Surgeons of New York. Medical education in New England began with a course of lectures on anatomy by Dr. Warren in 1772; and in the following year Harvard College organized a regular faculty consisting of John Warren, M. D., professor of anatomy and surgery; Aaron Dexter, M. D., professor of chemistry and materia medica; and Benjamin Waterhouse, M. D., professor of theory and practice of medicine. In 1810 the medical department was removed from Cambridge to Boston. Instruction in all these schools at this early period was limited to short courses of didactic lectures, and was supplemented by a system of private pupilage or apprenticeship, after the custom then prevalent in Great Britain, and the degrees of both bachelor and doctor of medicine were conferred according to the time previously spent in study. A degree, however, was by no means universally taken by physicians, and many entered upon the practice of medicine without other instruction than that received during their apprenticeship to a preceptor.

Dr. Davis proceeds next to give a somewhat detailed account of the medical schools established from 1810 up to the present time, and of the methods of instruction followed in them. From these statistics we learn that between 1810 and 1840 twenty-six new medical colleges were added to those above mentioned, and that since 1840 the additional number of forty-seven has been created. Of this total list of eighty founded during the century sixteen have been discontinued, leaving sixty-four in operation at the present time, and an estimated number of medical students in attendance of six thousand six hundred and fifty. This ratio, the author concludes, is not out of proportion to the ratio of increase of our population.

After this historical sketch of our medical institutions, Dr. Davis discusses the character and system of the education they have furnished. With the freest liberty of creating new schools throughout the country, with the right to confer degrees which have the effect of a license to practice medicine, he thinks that it requires but a moderate degree of familiarity with the motives that govern

<sup>1</sup> *Contributions to the History of Medical Education and Medical Institutions in the United States of America, 1776-1876.* By N. S. DAVIS, A. M., M. D. Washington: Government Printing Office. 1877.



human actions to see that medical education will shape itself to the natural tendency of the student to go where he can be made a doctor with the least expenditure of time and money. "The medical college in a country village, remote from all facilities for clinical instruction in hospital or dispensary, and but scantily supplied with subjects for dissection, can issue to its graduates just as large a diploma, couched in just as unintelligible Latin, and having much the same influence with the people as the school in the metropolitan city, whose students can have the largest facilities for clinical and practical study." With this multiplication of medical schools the former relative positions of private pupilage and college instruction have been entirely reversed, the former now "consisting in little more than the registry of the student's name in the doctor's office, permission to read the books of his library or not, as he chooses, and the giving of a certificate of time of study for the student to take to the medical college where he expects to graduate. . . . The latter, to have maintained its adaptation to the needs of the profession, should not only have increased the number of its professors and its means for communicating knowledge, but also the length of its annual courses, and the division or gradation of its classes in accordance with their period of study, and in proportion to the greatly enlarged field of medical knowledge to be acquired. Such would have been to-day the grand result worked out by our experiment of self-originating and self-sustaining medical schools, had they been restricted to their only appropriate functions as institutions for imparting medical instruction and advancing medical science, instead of being hampered and perverted from their natural course by assuming the office of licensing institutions."

The remedies for the general present deplorable state of medical education in the country Dr. Davis does not make very clear. That the system of uniting the work of teaching and the power of licensing to practice is a gross evil there can be no question, but it is in a small measure only the cause of the trouble, because it is practically inoperative for harm in some parts of the country at least. Harvard University, for instance, very properly may confer the degree of M. D., but she has no licensing power whatever, nor can any of her graduates receive permission to practice in Massachusetts from the only recognized licensing body, the State Medical Society, without passing an examination before a board of examiners elected by the profession at large. There is no doubt, were we living in a monarchy, that these matters might be better regulated under the control of a central power, but any attempt by our own general government to administer such affairs would necessarily result in the adoption of a uniform standard of requirements far below the level of that already enforced by the best of our licensing bodies representing the profession directly. The same would be true of any scheme of regulating the standard of medical education through a congress of representatives of medical teachers or state medical societies. Such a standard, to be generally accepted, would necessarily be below that already voluntarily adopted by a few of the medical colleges.

The medical department of Harvard University, for example, does not admit to its school any student who has not passed before its own or some recognized collegiate faculty an examination in languages (including English) and physics.

Its students, almost without exception, find it to their advantage, well-nigh a necessity, to spend three full academic years of nine months each in attendance upon the regular graded course of study, under a corps of thirty-six instructors; and the examination papers, upon which its degree is based, are yearly published and distributed over the country, so that the profession everywhere may know just what the Harvard standard is. With any less high the university would not be satisfied. There are but two or three other schools in the country which profess to teach under the same system, or to maintain as lofty a standard. These certainly would not lower themselves again to any such common level as the schools *en masse* would rise to.

It is to the influence of such schools as Harvard that we must look for the gradual elevation of medical education in America. It will not be long before some one of the large schools of New York will be emboldened by her success (as has already happened in Philadelphia) to furnish a properly graded and thorough medical education, to select its pupils, and to publish the examination papers which express the value of its degree. When thus the powerful schools in the large cities have come to see that their own prosperity and the highest interests of the profession will be alike advanced by adopting such a course, there will be little need to seek for other remedies for the evils Dr. Davis so clearly exhibits.

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### FARQUHARSON'S THERAPEUTICS.<sup>1</sup>

THE numerous works on therapeutics which have appeared during the last few years would tend to show that there is a demand for more reliable information as to the action of remedies than has previously been furnished in what were considered standard books. No one is bold enough to assert that either clinical experience or experimental study on the lower animals has produced a certain knowledge of the action of drugs, but every fair-minded student will admit that by the comparison of these two methods of observation we are upon the threshold which leads to a more accurate means of exhibiting a large number of remedies, and that with this power we can combat many symptoms of disease apparently depending on definite pathological lesions. What modern skeptic will dare to dispute the fact that ergot will arrest hæmorrhage caused by passively dilated capillaries, or what enthusiast will claim that with ergot he can arrest any and all hæmorrhages? Is not the answer to this double question to be met by stating that ergot, when absorbed into the circulation, contracts the lumen of the smaller blood-vessels, and thus retards the flow of blood resulting from a passive dilatation of these blood-vessels? The explanation of this theory is given by Dr. Farquharson (page 202) thus: "This is believed to be due to a primary action of the ergot on their [the smaller blood-vessels'] muscular walls rather than to the intervention of the vaso-motor system." If the reader will compare this with the

<sup>1</sup> *A Guide to Therapeutics.* By ROBERT FARQUHARSON, M. D. Enlarged and adapted to the United States Pharmacopœia by FRANK WOODBURY, M. D. Philadelphia: Henry C. Lea. 1877.



physiological action of the same drug which Wahltruck described in 1868, justice would demand the acknowledgment that our present information is far in advance of the previous decade.

It is as important for the modern practitioner of medicine to acquaint himself with the known physiological action of remedies as with the pathology of diseases, if he desires to take the lead among rival practitioners. Teachers in therapeutics must explain the action of medicines by physiological and clinical observations. Of necessity, those remedies which have only an empirical reputation cannot thus be discussed, nor can we expect that Dr. Farquharson can treat of the action of *damiana* or the *viburnum prunifolium*.

In view of this demand for more accurate information we look with pleasure on the arrangement of Dr. Farquharson's manual, and commend his bold and concise method of stating the physiological and therapeutical action of those drugs (officinal or unofficinal) which he has seen fit to speak of. For illustration we refer our readers to the article on Nitrite of Amyl (page 92); there the action on the nervous system and the application to clinical experience is as graphic as it is interesting. The advantage of comparing side by side, on the same page, the therapeutical and physiological action of the same drug is made more apparent (page 128) by stating the physiological action of belladonna "on the unstriated muscular fibres surrounding the arterioles," and the therapeutical application of this drug "in those cases of chronic inflammation of the spine leading to paralysis, where it acts well by contracting the vessels and diminishing the supply of blood to the affected part." Again, the explanation of the mode of using this same drug in "incontinence of urine in children."

One more illustration will show the clearness of Dr. Farquharson's style (page 282): "On the circulation it [phosphorus] acts in the first place as a stimulant; the pulse rises and gains in fullness, but not firmness, etc. . . . In large doses, however, it depresses to a dangerous degree the heart's action. Phosphorus may be given with decided benefit as a stimulant in *typhoid conditions* where great feebleness exists," etc.

Though exception might be taken to the fact that our present knowledge of the physiological action of drugs is very incomplete, a careful study of this Guide will show that Dr. Farquharson is well posted in the modern researches of experimenters and clinical instructors. Thus the busy practitioner can read in a short space an excellent compendium of the results of physiological study, and at the same time compare his bedside experience with both the therapeutical and the physiological action of remedies.

Dr. Woodbury, in his adaptation of the preparations of the British to the United States Pharmacopœia, has apparently done his work faithfully. Some of the doses are perhaps not exactly in accordance with the views of every practitioner; for instance, the dose of laudanum (*opii tinctura*) and *opii tinctura deodorata* is given as thirteen minims. This is rather a smaller dose than that usually given to an adult, but is supposed to be the equivalent of a grain of opium. The method of stating the various preparations and their doses, each on a separate line, is very convenient.

RANVIER'S HISTOLOGY.<sup>1</sup>

THE fourth fascicule of Professor L. Ranvier's *Traité technique d'Histologie* has been published. This excellent manual has been most favorably received everywhere, and from its trustworthiness and the novel plan upon which it is written it will certainly be an invaluable guide to students and an important aid to investigators. Professor Ranvier gives minute directions for preparing the various tissues and organs, and then describes exactly what may be learned from each preparation, thus rendering his work much more than a *Traité technique*. The illustrations are numerous, and are engraved on copper. They have a delicate beauty which is impossible with a wood-cut, and indeed they are above praise. The volume is to be completed in seven or eight fascicules of one hundred and sixty pages each. Its great value and the moderate price (twenty-five francs) should secure it a very large circulation. C. S. M.

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LÉON VOILLEMIER.

THIS distinguished French surgeon died recently, after a long and successful career. Appointed *interne* of the Paris hospitals in 1837, he took his degree in 1842, became assistant professor (*agrégé*) in 1844, and shortly afterwards surgeon of the hospitals.

Early in his career he published a number of papers, which have left their mark and are still quoted in treatises of surgery. The first essay, published in 1839, was upon dislocation of the wrist. In 1841 came his important paper on fractures of the lower end of the radius. Other contributions appeared on the following subjects: Strangulated Hernia, Extra-Uterine Pregnancy, Lameness (1844), Cysts of the Neck (1851). His later publications comprised a volume on Clinical Surgery (1860), a paper on the Treatment of Urethro-Perineal Fistula (1873), and the first volume of an elaborate treatise on Diseases of the Urinary Passages, published in 1868. This latter work, however, remains uncompleted.

Voillemier's name will long be remembered and quoted in connection with fracture of the lower end of the radius, which he was the first to describe accurately, but which is often improperly called "Colles's fracture." His dissections showed the existence in such cases of a transverse fracture, situated from a half to three quarters of an inch above the articular surface, with penetration of the upper into the lower fragment, the latter being tilted backwards. He also found in one case a stellate fracture dividing the lower end of the radius into several fragments, as previously described by Dupuytren. This injury, together with the fracture of the styloid process of the ulna, found by Voillemier in some of his cases, had occurred in two specimens lately shown by Bulteau at the Paris Anatomical Society, and would therefore seem not to be of rare occurrence.

Voillemier is also well known as having devised an instrument for the treat-

<sup>1</sup> *Traité technique d'Histologie*. Par L. RANVIER, Professeur au Collège de France. Paris : chez F. Savy. Fascicules I.-IV. 1875-1877.



ment of urethral stricture, called by him the *divulsor*, in order to distinguish it from Holt's dilator, which it very closely resembles. Voillemier's practice differed in one respect from that of Holt, inasmuch as he was in the habit of tying in an elastic catheter for twenty-four to forty-eight hours after the use of his divulsor. He attached considerable importance to this procedure, which he thought preventive of urethral fever. Holt, on the other hand, never ties in any catheter after splitting a strictured urethra with his dilator.

Voillemier was a member of several learned societies, including the Société de Chirurgie and the Académie de Médecine. He was for some years at the head of an important surgical service at the Hôtel Dieu, which he had to give up a few years before his death, having reached the age of superannuation. This circumstance deprived him of his principal field of observation, and caused his death to be less noticed and regretted than would have been the case had he been taken away during the more active period of his career. His disappearance is, however, a loss to French surgery.

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### MEDICAL NOTES.

— The graduates of 1878, of those schools whose term closes in March, are as follows: University of Pennsylvania, 127; Jefferson Medical College, 203; University of the City of New York, 153; Bellevue Hospital Medical College, 130; College of Physicians and Surgeons, New York, 109; Buffalo Medical College, 42; Medical College of Ohio, 102; Cincinnati Medical College, 33; Miami Medical College, Cincinnati, 51; Louisville Hospital Medical College, 17; University of Louisville, 71; Louisville Medical College, 70; Missouri Medical College, 102; St. Louis Medical College, 49; Medical College of Virginia, 12; College of Physicians and Surgeons, Indianapolis, 41; Indiana Medical College, 29.

— The *Medical Examiner* thinks that "in view of the fatal termination of Victor Emmanuel's illness, the fact that he was bled even to a small extent is much to be regretted, as it is to be feared that it will increase the prejudice against blood-letting, which now so largely prevails. . . . It is probable that many lives would be saved every year if practitioners had the courage to oppose the deep-rooted prejudices against phlebotomy, which now so sadly cripple their action." These remarks relate especially to the abstraction of blood in engorgement of the lungs, which lesion formed a portion of the late king's illness.

— A London correspondent of the *Clinic* says, "I don't understand why a man occupying the position and commanding the practice which Lister enjoyed in Edinburgh could go to London to lecture to empty benches. Here he has about twenty hearers, while in Edinburgh the seats would not contain the students who flocked to hear him. I am told that his beds in King's College Hospital are but little more than half filled, and it is a fact that he had a patient transported from the Edinburgh Infirmary to illustrate some feature of his antiseptic method. This was a case of lumbar or psoas abscess, which one now opens freely under antiseptics with good results. . . . Dr. Keith told me he had done his last twenty-four cases of ovariectomy under the Lister method, with but two losses."

— The *Archives de Med. novale* (No. 2, 1878) publishes a report, by Dr. Bourel-Roncière, of twenty-five operations which were facilitated by insufflation of air. A trocar is passed into the skin in the vicinity of the part requiring an operation; the cannula is connected with a syringe, by means of which air is slowly injected, until the surrounding cellular tissue is distended, the object being to separate and isolate the various layers and superficial tissues, the operation and the search for vessels being thus made easier. In order to prevent too extensive infiltration of air, pressure must be made near the part. Among the operations thus performed were ten for strangulated hernia, nine for removal of various tumors, two excisions of the maxilla, and ligation of large blood-vessels. We find this translation in the *Medical Times and Gazette*.

— The Fothergillian gold medal of the Medical Society of London for 1878 has been awarded to Dr. J. Milner Fothergill. The subject of his paper was The Antagonism of Therapeutic Agents. Dr. Julius Althaus received the silver medal for the best paper read before the society at its last session. Subject, Disease of the Anterior Cornua of the Cord.

— The *Medical Examiner* alludes to the success of Dr. Leidesdorf in the treatment of epilepsy with *small* doses of atropia, on the principle that small doses diminish the action of the reflex nerve centres. Recent and old cases recovered under this treatment.

— The distinguished physiologist, Dr. Ernst H. Weber, died January 26th, in Leipsic. He originated the doctrine of the mechanism of propulsion of the blood. His brother Edward, equally celebrated, created the theory of inhibition of the nervous system. Hence the term, "hemmungsnerven system," now in general use among the Germans. Volkmann and others formerly used the term, "regulatorisches nerven system."

— In reference to a medical test law recently passed in Illinois, a correspondent of the *Medical and Surgical Reporter* says, "The law is not perfect, but will be a stepping-stone to something more. Over six hundred non-qualified have left the State. Every doctor in the State is reading up. Very few students are entering our offices. Western colleges, as a result of the law, have been filled with students. Surrounding States will pass similar laws in self-defense."

— Germany has a university for every two million inhabitants.

— Dr. Nathan Bozeman has been appointed to the staff of the Women's Hospital, New York. He takes the place of the late Dr. Peaslee. Drs. Emmet, Barker, and Thomas are the other members of the staff.

— "No professional man, — no physician bound by the ethics of the profession," — says the *Hospital Gazette*, "has the right to recognize such an institution as the New York College of Veterinary Surgeons. Therefore Dr. Hammond has certainly brought no honor to the profession by the course he pursued in officiating at the commencement of this institution."

— M. Darsouval showed the Paris Society of Biology that when an induced current of electricity can no longer excite the sciatic nerve of a frog it will still cause a vibration of the telephone, thus proving that the latter is a more sensitive electric reagent than nerve tissue.



— Lister has been made an honorary member of the Royal Society of Physicians of Vienna. Charcot, Marion Sims, Hutchinson, Pacini, and Sommer have been elected corresponding members of the same society.

— In *Virchow's Archiv*, Bd. 72, 1878, Dr. F. Marchand, of Halle, reports the very rare case of tuberculosis of the muscles of the body of a man who had been twenty-four years a prisoner. Lungs, kidneys, and spleen presented an eruption of fresh miliary tubercles. A translation of the article may be found in the *Clinic* for March 30th.

— Mr. Liebreich has resigned his position of ophthalmic surgeon and lecturer on ophthalmic surgery at St. Thomas's Hospital, London, but at the urgent request of treasurer, staff, and governors he has accepted the appointment of consulting ophthalmic surgeon to the hospital. Liebreich takes his vacation during the winter months in order to enjoy a more genial climate. He is therefore absent during the active session of the school, and for this reason he resigned his offices.

— "We hear," says the *Medical Examiner*, "that M. Pierre Picard is to succeed Claude Bernard in the chair of physiology at the College of France. Picard, at present a professor at Lyons, was for a long time Bernard's assistant, and has published valuable researches on the constitution of the blood corpuscles."

— The same journal also states that the scientific committee for medical affairs has recently reported to the German minister of education on the effect of gaslight upon the eyes. The conclusions were that gaslight does not injure the eyes, provided they are not exposed to direct rays. Opaque metallic shades are condemned, and shades of translucent glass-porcelain recommended. The head should not be too near the light, and the flame should not flicker. When the eyes are irritable a dark-blue glass will be found useful.

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### PROFESSOR FRANCIS GURNEY SMITH.

MR. EDITOR, — We are reluctantly compelled to record the death of another prominent member of our profession in Philadelphia, whose loss will be widely felt. Francis Gurney Smith, Jr., M. D., emeritus professor of the institutes of medicine in the University of Pennsylvania, died on the 6th of April, 1878, at his home in this city, in the sixty-first year of his age. For several years he had suffered from renal disease, and two years ago his rapidly failing health warned him to relinquish his active duties, and to seek to reëstablish his physical powers by a prolonged visit to Europe. He returned home a few months since, apparently greatly benefited by his stay, although still unable to resume the arduous duties of his former position. He took great pleasure in seeing his friend, Dr. Brown-Séquard, during his recent stay in this city, and in driving with him in the park. He appeared to be in his usual health on the morning of the day on which he died, but then was suddenly attacked by apoplexy and paralysis, which rapidly proved fatal. He enjoyed the confidence of a large circle of friends both in the profession and outside of its ranks, and was universally respected for his social and scientific attainments.

Professor F. Gurney Smith was a native of Philadelphia, where he received his education, graduating successively from the department of arts and of medicine at the University of Pennsylvania. Upon receiving his diploma in 1840, he became resident physician in the department for the insane of the Pennsylvania Hospital, and nineteen years later, in 1859, he was elected one of the attending physicians of the medical department of the same institution, which position he filled for six years. He was also a member of the first medical staff of the Episcopal Hospital of Philadelphia. He was unusually successful in his private practice, and early obtained a prominent position in the profession in his native city. He was a member of the American Medical Association, and, it will be remembered, was one of the vice-presidents of the meeting held at Washington in 1870. He also belonged to the Philadelphia College of Physicians, the Pathological Society, Academy of Natural Sciences, American Philosophical Society, and several other scientific bodies. He was active in the formation of the Philadelphia Obstetrical Society, of which he was the first presiding officer. During the war he joined the army medical staff, and was connected with a military hospital.

In 1852 Dr. Smith, having already some experience and reputation as a lecturer on biology, was elected professor of physiology in the now defunct Pennsylvania Medical College, in which position he continued for seven years. In 1863 he was chosen to succeed the late Dr. Samuel Jackson as professor of the institutes of medicine in the medical department of the University of Pennsylvania. On account of his failing health he was obliged to resign this chair in 1877, when the board of trustees unanimously elected him emeritus professor of that branch. During this active term of service he established for the first time in the history of the institution a physiological laboratory to aid him in demonstrating his lectures. He was assisted in many of his early vivisectional experiments by his assistant and former student, Dr. J. Aitken Meigs, who succeeded him as professor of physiology in the Pennsylvania Medical College, and who, since 1868, has filled the corresponding chair in the Jefferson Medical College.

Professor Smith is known to readers of medical literature as one of the authors of the *Compendium of Medicine* (Neill and Smith's), and as American editor of *Carpenter's Physiology*. He also edited *Marshall's Physiology*, and translated, with the authors' sanction, *Barth and Rogers' Manual of Auscultation and Percussion*. For almost a decade he was one of the editors of the *Philadelphia Medical Examiner*. Among his fugitive contributions to medical literature may be mentioned the results of a series of experiments upon the physiology of digestion in the case of the celebrated Alexis St. Martin. (*Experiments upon Digestion*. Philadelphia, 1856.)

Dr. Washington L. Atlee has been for some time confined to his house with an abdominal growth. We hope that some relief may be afforded him, and that his sickness may be less serious than has been reported.

Dr. John Neill, of the University of Pennsylvania, is also in a precarious state of health, and is said to be unable to leave his room. W.

PHILADELPHIA, April 13, 1878.



## A CASE OF BELLADONNA POISONING.

MR. EDITOR,—A case of accidental poisoning by belladonna occurred here lately. It seems to me valuable for publication, because a large quantity of the drug was absorbed without fatal result (and it is the opinion of the attending physicians that the result was not decided by the treatment), and because the details can be given with accuracy.

The patient, who is also the writer, is a man twenty-eight years of age, of good physical development, and free from organic disease. When twelve years of age, at a boarding-school in Brattleboro, Vermont, he was dangerously ill with cerebro-spinal meningitis, followed by a slow convalescence. His father, Dr. Luther Parks, reported the case at the time in the *JOURNAL*. In the fall of 1871 he began his medical studies in Philadelphia, and remained there as student and practitioner five years. In that time his health was often depressed by overwork, and he had four distinct illnesses,—an attack of measles, two carbuncles, and an attack of nervous prostration after mental strain. Although the last two summers have been passed in the singularly restful climate of Mattapoisett, his nervous system was in an impaired state at the time of his late accident.

Friday afternoon, January 25th, he was suffering from pain in the joints of his lower extremities and vesical irritability, due to exposure to a cold rain-storm. For the relief of the latter trouble he called soon after dinner at a drug store for some fluid extract of buchu, and a bottle of fluid was given him by the proprietor labeled "Fluid Extract of Buchu." A few minutes after two o'clock he measured carefully one drachm of the drug, and, having filled the medicine glass to the brim with water, swallowed the whole contents without tasting it. A few minutes past four he measured a drachm and a quarter of the fluid, added water, and drank as before. In the interval between the two draughts he was occupied in reading, writing, and in other ways, and, though he felt strangely, the sensation did not demand particular attention. Immediately after the second draught he walked out, and noticed at once dimness of vision, dryness of mouth and throat, constriction of fauces, a feeling as if the tongue were enormously swollen, dullness of intellect, and weakness of knees, with want of muscular coördination. Having walked a half mile by himself, he joined a young lady and escorted her to her residence, and thence went to his room,—in all a distance of fully a mile and a half. Upon parting from the lady he stopped in the street and conversed with a medical friend. That gentleman has since told him that he noticed that something was wrong about him. Having reached his room and built a fire, at six o'clock he became alarmed at his symptoms, called his landlord to his assistance, and told him he thought he had been poisoned. The landlord acted with prompt decision and good judgment. The patient was running up and down the room, drinking large draughts of water, upsetting pitchers, and in danger of falling. His landlord in a tone of authority ordered him to bed, and was promptly obeyed, and he was held there throughout the night, in spite of his extreme restlessness. Medical aid was summoned at once. It was noted at this time that the tongue was very red and the secretion of urine increased.

There were hallucinations like those of delirium tremens, disagreeable, vanishing instantly, and immediately after their departure the patient was aware of their unreality. The yellow corpse of a tall man, shrouded in white, tried to share the patient's bed with him, and the unwelcome visitor was promptly ejected. A crimson serpent came from the foot of the bed, with the design of fastening upon the patient's neck. Rising to his knees, he with his fist drove the serpent's head deep into the bed, and instantly the apparition vanished. He asked his attendant (for he was practically *blind*) if the blanket had a red border to account for the hallucination. There were large sea-turtles about the room, such as he had seen in the Pacific. After an hour or two of sleep in the early morning the delusions became agreeable, and continued all day. While riding out in the afternoon with a medical friend, trees became personified to him as people in fantastic costumes. There was no diplopia at any time. In the morning there was severe pain in both renal regions, which he partially relieved by pressure with his fists, the elbows planted in the bed, and the body raised in that way quite off the mattress. There was some strangury the next evening.

Thus far this report is given from the patient's memory and note-book. With regard to the time when assistance was first summoned, further details are given derived from medical and other attendants. The delirium was "most busy." Picking things from the bedclothes, rising in bed to gather things from the pictures and walls, muttering to himself, he had little time to notice those about him. He answered short questions correctly. When the first physician arrived, shortly before eight o'clock, he found him with flushed face, pulse as full and strong as usual, and very rapid, but the wrist could not be held long enough to count it. Delirium tremens was considered; also his having been drugged. There was no one about who knew the patient's habits, nor where he had been during the day. The physician was sure that the effect of the narcotic had reached its height, and that there was no danger to life. Bromide of potassium and morphia were ordered, but the patient, though aware that he was ill, resisted treatment, and but little of the bromide was swallowed. One half grain of the morphia in whisky was forcibly administered. Shortly before nine o'clock a second physician called. He was sure that the mischief had been caused by atropia, in spite of the patient's declaration to the contrary. The lighted candle held before the widely dilated pupils caused pain. The proper treatment having been pursued, he left no directions. The next morning he tested the patient's vision by passing his forefinger close before his eyes. It was not seen.

In the morning the druggist called, and confessed that he had given belladonna for buchu.

There was no vomiting. Urine escaped during sleep, but otherwise there was neither incontinence nor retention.

A specimen of the urine passed between Saturday and Sunday mornings was tested by the writer. After prolonged boiling and addition of nitric acid fully ten per cent. of albumen was deposited after standing twelve hours. Fifty cc. of urine deposited 1 cc. of sediment (two per cent.). Under the microscope this was found to be squamous epithelium, with a few crystals (modified



form) of triple phosphate. The urine, and also the pupils, became normal in less than a week. The face remained flushed for days.

Great mental and physical prostration, sleeplessness, and pain in the left kidney followed the accident, and are still present at this date. The pain was relieved by a Turkish bath in San Francisco not long ago, but has returned to a slight degree.

The fluid extract came from Tilden & Co., New Lebanon and New York city, N. Y. It is being tested by competent chemists, and any valuable results will be sent to the JOURNAL.

This report is published by the kind permission of the attending physicians, to whom it has been submitted for approval. Your obedient servant,

EDWARD L. PARKS.

SANTA BARBARA, CAL., February 20, 1878.

#### COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending April 13, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean of ten Years, '68-'77.
New York.	1,093,171	509	24.21	24.32	28.71
Philadelphia.	876,118	304	18.04	18.80	21.54
Brooklyn.	549,438	190	17.98	21.51	25.50
Chicago.	460,000	106	11.98	17.83	22.39
Boston.	375,476	121	16.76	20.10	24.34
Providence.	100,000	36	18.72	18.81	19.20
Lowell.	55,798	18	16.77	19.09	22.50
Worcester.	54,937	18	17.05	14.07	22.30
Cambridge.	53,547	15	14.56	18.69	20.83
Fall River.	53,207	29	28.35	21.35	24.96
Lynn.	35,528	19	27.82	20.42	19.67
Springfield.	33,981	3	4.59	16.04	19.77
Salem.	27,140	8	15.33	20.28	21.15

#### TAPE-WORM.

MR. EDITOR, — A notice is at the present time being pretty extensively circulated among physicians, in which a number of names are given as references, by a person who takes this means of advertising a small and quackish pamphlet on tape-worm. The names are used (so far as I have been able to ascertain) without a shadow of authority. The pamphlet contains nothing worth reading, except, perhaps, the formula which its author uses to effect the removal of the parasite. Here it is: A purge at night. Three or five grains of calomel in the morning. Immediately afterwards four or eight ounces of an infusion of pomegranate root (prepared by pouring a quart of cold water over half a pound of the root and boiling down to a pint) is given, and repeated in two or three hours if not effective. Should the worm be only partially expelled, an enema of salt and water is used. Nausea is prevented by sucking a lemon. Fasting is prescribed from the beginning of the treatment until after the expulsion of the parasite.

F. G. M.

MR. EDITOR, — The JOURNAL for April 11, 1878, contains a note signed E. H. Pettengill, in which he speaks of a prescription given in the JOURNAL for March 21st, and says: "This prescription is the same as given in Niemeyer's Text-Book of Practical Medicine, and has been used by the physicians in this vicinity for quite a number of years," etc. Now I do not understand how our Vermont brethren make their pills. The ferri sulph. and potass. carb. pura when rubbed up deliquesce, and if mucil. tragacanthi be added a bottle is needed. The prescription should, in my way of thinking, read "pulv." instead of "mucil." tragacanthi.

I am, etc.,

G. W. COPELAND.

MAVERICK SQUARE, EAST BOSTON.

GYNÆCOLOGICAL SOCIETY OF BOSTON. — The next regular meeting of the society will be held at the Evans House, on the first Thursday in May, at three o'clock P. M. The following papers are expected: —

Drs. Gilman Kimball and E. Cutter, Fifty Cases of Uterine Fibroids treated by Electrol-ysis.

Chareot's Position (that of a general practitioner) respecting the Relation of the Ovary to certain grave Forms of Hysteria; the Phenomena of Nervous Epidemics, etc., by H. M. Field, M. D., Professor of Therapeutics, Dartmouth Medical College.

The profession are invited to be present after the business meeting. Doors open at four o'clock.

HENRY M. FIELD, *Secretary*.

SUFFOLK DISTRICT MEDICAL SOCIETY. — Annual meeting, April 27th, at seven and a half o'clock. Reports of committees. Election of officers. The following papers and cases will be read: —

Dr. J. P. Ordway, Successful Treatment of Fistula in Ano by Local Applications, with exhibition of patients.

Dr. William Read, a Case of Tetanus. Diphtheria. Knot in the Umbilical Cord.

Dr. E. W. Cushing, Sun Spots and Epidemics.

Tea, etc., at 9 o'clock.

AMERICAN MEDICAL ASSOCIATION. — The twenty-ninth annual session of the association will be held in Buffalo, N. Y., on Tuesday, Wednesday, Thursday, and Friday, June 4th, 5th, 6th, and 7th, commencing on Tuesday at eleven A. M. We give a list of the officers of the various sections: Practice of Medicine, Materia Medica, and Physiology: Dr. A. L. Loomis, New York, chairman; Dr. J. H. Etheridge, Chicago, Ill., secretary. Committee appointed to report to this section: On Clinical and Meteorological Records: Dr. N. S. Davis, Illinois, chairman. Obstetrics and Diseases of Women and Children: Dr. E. W. Jenks, Detroit, Mich., chairman; Dr. H. O. Marcy, Cambridge, Mass., secretary. Surgery and Anatomy: Dr. Henry H. Smith, Philadelphia, Pa., chairman; Dr. E. T. Easley, Little Rock, Ark., secretary. Medical Jurisprudence, Chemistry, and Psychology: Dr. Walter Kempster, Oshkosh, Wis., chairman; Dr. E. A. Hildreth, Wheeling, W. Va., secretary. State Medicine and Public Hygiene: Dr. J. L. Cabell, University of Virginia, chairman; Dr. E. J. Marsh, Paterson, N. J., secretary. The following committees are expected to report: On Prize Essays: Dr. E. M. Moore, Buffalo, N. Y., chairman. On Necrology: Dr. J. M. Toner, Washington, D. C., chairman. On Catalogue of National Library: Dr. H. C. Wood, Pa., chairman. On Recommendations in President Bowditch's Address: Dr. N. S. Davis, Illinois, chairman.

Secretaries of medical societies are requested to forward at once a list of their delegates to Dr. Atkinson, of Philadelphia.

BOOKS AND PAMPHLETS RECEIVED. — The Vest-Pocket Anatomist. By C. Henri Leonard, A. M., M. D. Second Enlarged Edition. Detroit. 1878.

Report of the Resident Physician of Brigham Hall, a Hospital for the Insane, for the Year 1877. Canandaigua, N. Y. 1878.

Addresses delivered at the Fifty-Sixth Annual Commencement of the National Medical College (Medical Department of the Columbian University). By J. C. Welling, LL. D., Professor William Lee, M. D., and C. T. Lewis, M. D. Washington. 1878.

Annual Announcement of Lectures at Toland Hall, Medical Department of the University of California. San Francisco. 1878.

Lithotomy. A Tabulated Statement of Cases, etc. By David Prince, M. D., Jacksonville, Ill. (Reprinted from the St. Louis Medical and Surgical Journal, April, 1878.)



# THE BOSTON MEDICAL AND SURGICAL JOURNAL.

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## LECTURES.

### THE HEROIC TREATMENT OF IDIOPATHIC PERITONITIS.

A CLINICAL LECTURE DELIVERED IN THE HOSPITAL OF THE UNIVERSITY OF  
PENNSYLVANIA.

BY H. C. WOOD, JR., M. D.,

*Professor of Materia Medica and Therapeutics, and Clinical Professor of Nervous Diseases in  
the University of Pennsylvania.*

GENTLEMEN, — I am going to step out of my own special department, that of nervous diseases, to-day, and lecture to you on the case of Mr. L., one of your own number, who has been very sick for the past two or three days from an unusually severe attack of peritonitis. I hope that the interest of the case will atone for the liberty I have taken in thus going out of my proper sphere as a clinical teacher.

Three days ago Mr. L., a medical student, was suddenly seized with the most violent purging. The discharges were free and watery, and so constant that he was forced to remain at stool for two hours. This attack began about midday. In the evening the patient suffered from intense abdominal pain. By the following morning this pain had become unbearable. The tenderness below the umbilicus was excessive. There was free vomiting.

Now a great many high authorities contend that there is no such thing as true idiopathic peritonitis. In positive opposition to this view I hold that I have seen quite a number of idiopathic cases in my own practice. I know no reason why the peritonæum should not share the fate of the other serous membranes.

I saw the patient on the morning of the second day, and was quite puzzled in making out my diagnosis. The first questions I put to myself were: Is it a case of idiopathic peritonitis, or is there some other cause for the symptoms? Can they be the result of the passage of a biliary or renal calculus? After thoroughly sifting all the possible explanations I came to the conclusion that it was a case of enteritis which had extended to the peritoneal covering and brought on peritonitis. The seat of the pain was certainly not that which marks and accompanies the passage of a renal or biliary calculus. The most intense pain was

situated low down in the umbilical region. This pain did not run towards the back or penis, as is the case in renal calculus. Moreover, in these diseases I should not have found such intense local tenderness. There was a possibility of intussusception, which does occasionally occur in adults, but such an explanation seemed improbable, for (1) there was no passage of blood by stool, (2) there was no suppression of urine, and (3) there was no local tumor to be found. Could it be an instance of typhlitis? The tenderness was not greater on the right than on the left side, and the locality of the pain was not that of typhlitis. Another strong point against the supposition of the existence of any of the above diseases was that none of them begin with free purging, as has been the case here. Free purging is invariably a sign of some bowel complication.

I had some time ago under my care a woman who had been suddenly seized with the most violent cramping and spasmodic pain in the abdomen. The only thing which gave her relief was pressure. Her whole belly was exquisitely tender. All these symptoms had been the result of some undigested food. The irritative inflammation set up by this food had stopped all the secretions of the intestines, and had then extended to the peritonæum and caused serious inflammation there. I explained the present case to myself in the same way. The violent, paroxysmal, persistent pain and tenderness made it clear to me that, whatever had been the primary cause of the attack, I had to deal with a well-marked instance of peritonitis.

Now as regards the treatment I employed. This has been my fifth case of idiopathic peritonitis in private practice. I have seen many cases of peritonitis in puerperal women and in the Almshouse Hospital. In the Almshouse Hospital everybody is utterly broken down in constitution, and so no criterion of an acute disorder can be had there. In all of the five cases above mentioned I have had complete cures. My treatment is nothing new; on the contrary, it is very old. I remember my uncle, Dr. George B. Wood, saying that he never lost a case of peritonitis in an adult, and the reason he gave was that he always bled his patients from the arm until they fainted, and then put one hundred leeches on the abdomen. I am proud to say that I am a thorough believer in the same plan of treatment, antiquated as it may appear. In my first case, that of a woman, as I was not called in until the disease was of many hours' standing, I found bleeding unnecessary, but I did put on as many leeches as the abdomen would hold. In my second case I also leeches very heavily, it being too late to bleed. In my third case I drew thirty-two fluid ounces by leeches. The patient's cheeks grew deathly pale, her pulse was reduced, and she was left weak and relaxed, but made an excellent recovery. So with the fourth case. In my fifth case the excessive purging rendered the subject scarcely a



fit one for venesection. I therefore took away only fifteen fluid ounces, thinking that the purging had already weakened the man sufficiently. I have never, you see, had cause to regret having bled my patients copiously. It makes very little difference whether you take the blood from the arm or from the abdomen, provided you draw enough to make a profound impression.

You all know that in surgical practice a large number of local inflammations are subdued by obstructing their supply of blood; the inflammation subsides so soon as the passage of blood is prevented. I do not see why I should not apply this precise principle in cases of peritonitis. For just as a fire goes out when you take away its fuel, so venesection must have, and in my experience has had, a most salutary effect. I have said that it makes but little difference whether you take the blood from the arm or abdomen; taking the blood from the abdominal walls should certainly give a more direct effect, though this is not always the case.

What is to be done after venesection? I take my stand on the old theory that calomel has power to modify inflammatory action. In cases of iritis the microscope has positively revealed the absorption of the lymph following its use. We know that calomel renders the blood less coagulable, and stops the production of fibrine. In inflammation there is a great tendency to the production of fibrine of a low order, which is very likely to coagulate. I am, as you see, a most entire believer in the antiphlogistic properties of calomel, — not indeed in inflammations where there is too little fibrine, but in all inflammations where it is in excess.

As peritonitis is an exceedingly severe disease, and means death in ninety-nine out of a hundred cases unless they are treated promptly and efficiently, mercury, to do any good, must be taken in decided doses. In my fifth case, referred to above, I gave half a grain of calomel every hour. In this case I am giving one quarter of a grain every hour.

In connection with the calomel opium is undeniably of great value. We do not know exactly how the opium does good, except that as horrible pain breeds physical exhaustion, so opium puts a stop to this pain and to the exhaustion and restlessness accompanying it. Opium may therefore be said (1) to prevent exhaustion and (2) to cause quiet. I think, indeed, that it does even more by influencing beneficently the inflammatory action. If you give opium at all in peritonitis, give it in large doses. Use enough to keep the patient on the verge of narcotism. Opium, like every other medicine, has no fixed dose, but must be administered until its effects are noticed. Never administer opium in the form of hard pills, for the pills collect, unsoftened and unactive, in the alimentary canal, until the whole mass is suddenly dissolved and thrown

into the circulation. I therefore advise its use in the liquid form, and in repeated small doses.

The ability to stand large doses of opium in peritonitis is wonderful. In one of my cases *seventy-five* grains of solid opium were taken daily for five days, and the patient made an excellent recovery. In another instance twenty drops of deodorized laudanum were repeatedly injected into the rectum for a long period of time. As the disease wears out, the ability of the system to stand large doses subsides, so that the quantity must be gradually diminished.

Dr. Binz, in his latest work on therapeutics, makes the point-blank assertion that no one has satisfactorily proven thus far that counter-irritants do good in disease. In reply to this statement I desire to advance the argument that no one who has had a severe stomach ache will say that he does not believe in counter-irritation. Therefore by all means use blisters in peritonitis, but never use blisters in the early stages of the disease.

The first thing to be done when the leeches have been removed is to apply poultices; whether they are hot or cold makes little difference. Where there is a very marked tendency to feverishness it is perhaps better to apply cold poultices. If the abdomen is too tender to bear the weight of the ice-bag, apply light flannel cloths wrung out of ice water. In this case I have been using light cloths wrung out of hot water. A warm-water dressing may act merely as a local derivative to the skin, but I think it highly probable that some of the warm water oozes through the intervening tissues into the abdomen, and so acts directly as a soothing agent upon the inflamed peritonæum. Do not, however, understand me as making a positive assertion with regard to this point.

That warm and cold local applications do most certainly affect the neighboring and subjacent tissues to a considerable depth I have amply proven by numerous experiments upon animals. The application of ice to the head of a cat, for example, will affect the base of the brain very perceptibly. So, too, as regards external applications of either moist or dry heat.

After the abdomen has been thoroughly poulticed for two or three days blisters may be used, provided the temperature of the body has not remained high; that is, a blister may be applied at the end of three days if the temperature has fallen in the mean while. Do not put on a small blister. I was talking with my uncle, Dr. George B. Wood, the other evening about this very case, and he said that if he were in my place he would order a blister ten by ten (inches). I have ordered a blister eight by ten. In one of my first cases pus had formed in the abdomen, and I blistered so freely that the woman got tired of me and called in the services of an old Indian woman, who told her that her



liver strings were loose. Her treatment, like mine, consisted in persistent blistering. As soon as one spot of new skin showed itself the old woman would clap on another blister. After some more experience of the Indian doctress the patient determined to have me back again. I saw that though the herb woman's diagnosis was faulty her therapeutics were good, and by sticking to the blisters for some time longer I succeeded in curing my patient entirely.

How does quinia act in peritonitis? you will ask. There is a very prevalent belief that large doses of quinia are of service in this disease. I have seen most remarkable results from its use in puerperal peritonitis. There it does good by its action on the septic material, expelling it by causing contraction of the womb. Quinia might be of advantage in some cases of idiopathic peritonitis. Generally the stomach is not strong enough to bear it; such has been the case here.

As regards food, the less you give a patient in the first few days of an attack the better. When you do begin to feed, remember that you are feeding a patient whose abdominal contents are all glued together with adhesive lymph, and also remember that if these agglutinations are torn apart there is great danger of hæmorrhage or collapse. The food which should be given after the first acuteness of the attack has passed off must be that which leaves the least residuum of undigested matters, and therefore causes the least amount of peristaltic action on the part of the intestines. Milk in repeated small doses is the best article of food possible. After the end of a few days you may give some solid articles. If there are symptoms of exhaustion late in the course of the attack give beef tea as a stimulant. Alcohol is not only powerless but even dangerous in the early stages of the disease. A few doses of brandy in the first days of an attack of peritonitis may produce death. This patient took a couple of tablespoonfuls of brandy at the beginning to relieve the griping, and he says it burnt him like fire. Alcohol, of course, only adds fuel to the fire.

A very important question arises during convalescence as to how the bowels shall be opened. Never think of using a purgative or an enema. These bring violently into play all the muscles of the abdomen. Very often there will be a spontaneous movement on the fifth or sixth day, without any medicine at all. If there is not such an opening, give at the end of ten days a small dose of castor oil. If there is retention of urine, the water must of course be drawn off by means of the catheter. In using calomel in the early stages my advice to you is to push its use to the production of slight ptyalism and soreness of the gums. If you follow out the plan of treatment which I have sketched for you in all its details, I think you will treat the disease very successfully.

In concluding, let me point out how far this treatment is applicable to cases of puerperal peritonitis. I am convinced that there is a class of

cases in which it is desirable. Where there is a wave of puerperal peritonitis due to adynamia flowing over a section of country this treatment will be of no avail, for here the disease is only an expression of a blood disorder. Nor is this treatment well borne where the disease is plainly septic in its origin. There is, however, a third class, in which the disease has been brought on by bruising of the parts during the process of labor. In this class the treatment for idiopathic peritonitis is well borne. These are the cases resulting from an extension of non-septic metritis. Here, of course, free venesection does great good. In these cases there is always decided febrile reaction, but absence of the characteristic puerperal typhoid and adynamic expression of face. In such cases you should always superadd the use of quinia, so as to provoke uterine contraction and so prevent septicæmia.

You must have great care during convalescence from peritonitis to prevent a relapse. Do not think of allowing any violent or gymnastic exercise for a long time afterwards. Fibrinous bands have been formed in the abdomen and may have become the seat of blood-vessels. If these are torn you may have either acute hæmorrhage or a very serious relapse.

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### RAPID LITHOTRITY.<sup>1</sup>

BY T. B. CURTIS, M. D.

Two years ago I read before the Boston Society for Medical Observation a paper on Lithotrity.<sup>2</sup> In the cases which I then communicated to the society, successful results had been attained by means of multiple sittings of very short duration. In one case offering peculiar difficulties together with a stone of large size, the number of sittings reached thirty-five, extending through a duration of many weeks, in the course of which the patient, who was over seventy years old, necessarily encountered great risks. In strong contrast with the method of treatment then advocated is the operation performed in the cases which I now bring forward. In these cases, three in number, a new method was adopted, for which its inventor, Dr. H. J. Bigelow, proposes the name of "rapid lithotrity with evacuation," thereby emphasizing the characteristics which chiefly distinguish this operation from lithotrity as hitherto practiced.

#### CASES.

CASE I. Mr. X., aged fifty-four, living at Watertown, was sent to me by Dr. H. I. Bowditch. First symptoms of urinary trouble about two years ago, when he began to suffer from increased frequency of micturition and occasional hæmaturia. One physician said he had catarrh of the bladder, making no local examination. Another one sounded for stone, but used for that purpose a metallic catheter with a large curve. The instrument being unsuitable for sounding, the stone was not detected.

<sup>1</sup> Read at the meeting of the Boston Society for Medical Observation, March 18, 1878.

<sup>2</sup> See JOURNAL, August 10, 1876.



When I saw the patient, February 1, 1877, he complained of pain, which felt as if the bladder were overfull, this discomfort being only partly relieved by micturition. There was also scalding pain at the meatus during urination. The vesical irritation was moderate, the patient urinating every two or three hours, but holding his water upwards of four hours if compelled to. He had to get up to pass water two or three times at night. The irritation was greater when he was moving about than when keeping quiet. He had never had stoppage of the stream, nor retention. The urine was acid and somewhat turbid, with pus cells and blood disks. The stone-searcher showed the presence of a hard stone, estimated to be about an inch in diameter. Moderate pain, with no bleeding, attended the examination, which produced no unfavorable after-effects.

February 12th. The meatus, measuring 25 F., was incised and enlarged to 32.

February 15th. Large metallic bougies, numbers 27, 28, and 30, were easily passed. The lithotrite was also introduced, but the stone was not seized, as the patient complained of pain when the instrument was opened.

March 6th. The operation took place at Watertown, Dr. John Homans kindly assisting by giving ether. The patient was feeling well. He had eaten nothing for five hours. The bowels had been emptied before the operation. The room was thoroughly warmed. Ether was well taken. The lithotrite being introduced and opened, a stone measuring one inch and a quarter in diameter was seized. It was broken, and the fragments were successively crushed during about half an hour. Then the curved evacuating tube number 31 was introduced, not without difficulty, it being necessary to pass to the left side of the patient in order to assist the progress of the instrument by means of the left fore-finger placed in the rectum. By means of Clover's apparatus, somewhat modified, a considerable quantity of fragments, large and small, was removed. The lithotrite was then reintroduced, succeeded by a second introduction of the large catheter. The lithotrite, used for the third time, found but little work to do, and the third and last evacuation brought out a few very small fragments only. The stone-searcher was then introduced, and showed the bladder to be free of stone. The operation was thus concluded, having lasted one hour and twenty-five minutes. The duration would no doubt have been shorter if I had had an assistant to prepare the instruments for use, to cleanse and oil the lithotrite, fill and empty the evacuating apparatus, etc. Throughout the operation there was, as usual in such cases, some hæmorrhage, the water issuing tinged with blood. After the operation the patient had a hot mustard and linseed poultice applied to the hypogastrium, and a suppository with one third of a grain of muriate of morphia. A rubber catheter was left, to be used if retention should occur.

The next morning, March 7th, the patient was without pain. The pulse was 68. He had slept badly, having suffered from retention, which was relieved at two A. M. by a neighboring physician by means of the rubber catheter, about a quart of bloody urine being drawn off. Since then the patient has continued perfectly comfortable. The retention persisted during four days, when the catheter ceased to be needed.

On March 8th, two days after the operation, the pulse was 64, the temperature in the rectum being 100° F. The urine was strong smelling and somewhat turbid, but not alkaline. The bladder was washed out with a solution of borax, glycerine, and water.

On the 10th of March, four days after the operation, the retention ceased, and the urine was almost clear. On the 11th the patient got up, and on the 16th, — the tenth day, — he went out. Since then he has been well, with clear, acid urine, containing no pus. He can hold his water six or eight hours, if necessary. He was last seen in January, 1868, ten months after the operation. The urine remained clear; there was no pain. The stone was composed of uric acid and of urates. The detritus removed during the operation weighed, when dry, two hundred and fifty-seven grains. The six largest fragments averaged four grains each in weight. The urine, carefully strained for a week after the operation, yielded only two and a half grains of gravel.

CASE II. Mr. Y., of Salem, aged about thirty-five, sent to me by Dr. H. I. Bowditch, whom he consulted recently on account of symptoms of phthisis, came to me March 26, 1877. The first urinary symptoms appeared about three years ago, but the patient had never been sounded. The symptoms have been as follows: pain in perinæum; frequency of micturition, occasionally so great that he would urinate every half hour, and obliging him to get out of bed from three to six times at night, calls to micturate being imperious; jolting in a carriage, or in a horse-car when off the track, very painful; occasional inter-

ruption of stream during micturition; almost constant presence of oxalate of lime in the urine. These symptoms had been met with nitro-muriatic acid by his former medical attendant. When seen by me, his urine contained a little pus and blood, together with oxalate-of-lime crystals. The sound, easily and painlessly introduced, showed the presence of a small stone. The calibre of the meatus was 23.

The patient was exceedingly debilitated and emaciated by the two diseases from which he was suffering. His pulmonary symptoms were hardly such as to leave hope of his recovery. Nevertheless, the additional distress caused by the calculus was so great that Dr. Bowditch and I concurred in the belief that lithotrity, especially if performed by Dr. Bigelow's method, would be beneficial.

April 2d. The meatus was incised, and enlarged from 23 to 30. Steel sounds 23, 24, 25, and 26 were introduced, the last with difficulty, the urethra being somewhat contracted in the perinæum.

April 6th. The patient had an attack of cystitis, caused by overmuch walking about in Boston while attending to business during the preceding two days. There were suprapubic pain, thick and alkaline urine, with ropy pus, and fever. Rest in bed, milk diet, decoction of triticum repens, and opiated suppositories were the treatment used, and the symptoms became less severe, some fever being found, however, to recur every evening.

May 11th. Operation at Salem, Drs. Kemble and Carleton, of Salem, being present, as also two medical students as assistants. The patient was feeling tolerably well. The bowels had been moved by enema. Room at 73°. Ether was given. With the lithotrite a stone three quarters of an inch in diameter was seized and broken. It turned out to be quite soft, much to my surprise, as I had expected a mulberry calculus, on account of the habitual presence of oxalate-of-lime deposits in the patient's urine. Evacuating catheters 26 and 24 could not be introduced. Catheter 22 went in and evacuated fine gravel and sand, but no fragments of any size. The lithotrite and the evacuating apparatus were used alternately, each three times. Repeated attempts to introduce a larger tube than 22 failed. In the middle of the operation some difficulty and delay were caused by a fragment which got wedged into the prostatic urethra. The operation lasted two hours, at the conclusion of which time no fragments could be detected by means of the sound. There was very little hæmorrhage, the water issuing pink rather than red. The result of the operation was seventy-two grains of fine gravel and sand, composed of urate of sodium, oxalate of calcium, carbonate of calcium, and phosphate of calcium, according to an analysis by Professor Wood. The patient was left under the care of Dr. Carleton, who attended him subsequently, and who kindly communicated to me some of the further details of the case. The vesical symptoms were slight, there being little pain. Three days after the operation the patient could hold his water two or three hours. The urine was strained for several weeks, and sand amounting to forty-nine grains was collected, making the total weight of the stone, when dry, one hundred and twenty-one grains.

On June 4th, there being an occasional twinge of pain in the bladder, although the water could be held for half a day without discomfort, I introduced the sound and detected a small fragment, which was easily caught with the lithotrite and crushed, the diameter being one fourth of an inch. After this the vesical symptoms entirely ceased.

In June the patient came to Boston to see Dr. Bowditch with reference to his pulmonary disease, which continued to progress, and in the course of the summer he succumbed.

CASE III. Mr. Z., of Dorchester, aged sixty-eight. His urinary symptoms began two years ago. One year ago he consulted a physician, who recognized hypertrophy of the prostate, and instructed him very properly in the use of an English gum catheter. The bladder was also washed out.

When I first saw the patient in my office, in June, 1877, he was in fair general health. He was passing water with much straining and distress, at intervals of about an hour. The urine was turbid and muddy, strong smelling, but acid. He was using his catheter at bedtime, and, having so emptied his bladder, he was able to remain in bed all night. Having requested him to make water to the full extent of his ability, I introduced a soft-rubber catheter and drew off five ounces of urine. I advised the use of the rubber catheter several times daily, together with injections of a solution of borax.

On August 4th I was called to see the patient, who was suffering from an increase of cystitis. The urine was ammoniacal and ropy. There was smarting pain at the neck of the blad-



der during micturition. The introduction of the catheter had been causing pain and slight bleeding. The elbowed catheter of Mercier, number 18, went in easily, without pain or hæmorrhage. I advised the use of this catheter, with a daily washing out of the bladder.

August 10th. The urine was still ammoniacal, with ropy pus and lively bacteria.

August 13th. The patient had a feverish turn, with increased vesical irritation and pain, water being passed every hour.

September 4th. The usual treatment for cystitis complicating obstructive hypertrophy of the prostate having failed to afford relief, I decided to sound for stone. The patient was etherized at his house by Dr. E. G. Cutler, and the stone-searcher showed the presence of a small calculus. The urethra was quite capacious.

September 9th. Operation. Dr. E. G. Cutler again gave ether. The lithotrite easily broke up a soft stone somewhat over a half an inch in diameter. The lithotrite was thrice brought out packed. I then attempted to pass the large evacuating catheters, numbers 31 and 28, but they both stuck fast at the triangular ligament. Knowing I had but little gravel to remove, I refrained from protracted efforts to introduce them, and contented myself with catheter number 27, by means of which a small quantity of gravel was obtained. Then the lithotrite and the sound were successively introduced, but no fragments could be felt. During the operation, which lasted one hour, scarcely any hæmorrhage occurred.

For a few days there was slight cystitis and a little fever, but the reaction was very slight, the highest temperature observed being 100.4°. In a week all signs of disturbance had subsided, leaving only the symptoms necessarily resulting from the incurable prostatic disease.

A fortnight after the operation the patient was able to hold his water four hours, and could retain a pint of urine. The water was acid and nearly clear. The residual urine, or back-water, had diminished to two or three ounces. The patient, last seen in November, was still suffering in a slight degree from vesical irritability, and continued to use the catheter, together with borax injections.

REMARKS. — I have spoken of the operation performed in the foregoing cases as *new*. It is so. Some surgeons, calling to mind cases in which calculi have been successfully disposed of in a single sitting of lithotrity, may be disposed to take exception to this statement. Thus, in Sir Henry Thompson's series of two hundred and four cases,<sup>1</sup> in which the number of sittings to a case averaged 5.5, the largest number in any one case being eighteen, I find seven cases in which one sitting proved sufficient. In each of these seven cases, however, the stone is said to have been small, that is to say, of a size "not exceeding the volume of an ordinary nut." Between these cases, where the stones were of so small a size as to make a second sitting not only superfluous but impossible, and such cases as have been successfully treated by Dr. Bigelow's operation, there is a very great difference. Although only a few days ago, in a case for which I am indebted to Dr. Ellis, I succeeded in completely relieving a patient of a stone measuring half an inch in diameter by means of a single sitting of lithotrity, the idea would never suggest itself to me of including this case among the instances of "rapid lithotrity" which form the subject of this communication. No one before Dr. Bigelow had succeeded in relieving a male patient suffering from a vesical calculus of large or even medium size, save by one of two methods: either by lithotomy, or else by a number of successive sittings of lithotrity, lasting through a period of several weeks or months.

<sup>1</sup> Practical Lithotomy and Lithotrity. London. 1871. Appendix, page 293.

Such being the facts, I venture to assert that we have henceforth, in dealing with cases of stone, a choice of three separate methods of surgical treatment where, until recently, we had been restricted to two. Just as stricture of the urethra may be treated by urethrotomy or divulsion, constituting what the French call the *méthodes de force*, or by gradual dilatation, called the *méthode de douceur*, so in cases of stone we have, on the one hand, the forcible treatment, comprising, together with lithotomy, the "rapid lithotrity" of Dr. Bigelow, and, on the other hand, the gentle treatment, consisting in lithotrity divided into multiple short sittings. This new lithotrity, terminated if possible in a single prolonged sitting, is as distinct from the old procedure as is the treatment of stricture by the divulsion of Holt or of Voillemier when compared with the time-honored method of gradual dilatation.

The innovations which have made possible such results as were set forth by Dr. Bigelow in his recent publication on this subject<sup>1</sup> were twofold in character. In the first place, the well-known evacuating apparatus, which had hitherto proved efficient only in a very limited degree, owing chiefly to the inadequate calibre and imperfect shape of the catheters accompanying it, was largely modified. It was thus rendered capable of doing its intended work with sufficient rapidity to enable the surgeon to evacuate unprecedented quantities of *débris* within a space of time not incompatible with the safety of the patient. The manipulation of the apparatus also was reduced to an art by itself. Secondly, the rule prescribing short sittings of lithotrity, not exceeding in duration two, three, or at most five minutes, was boldly departed from, and it was found that a sitting of two hours or more could in most cases be endured with perfect safety, provided only that it was so managed as to result in a tolerably complete evacuation of the calculous fragments. In several of the cases which I have seen, both of my own and of other operators, I have been extremely struck with the fact that after a long sitting, lasting from one to two hours, no greater reaction ensued, whether in the form of cystitis or of fever, than habitually attends each of the ordinary short sittings of lithotrity, as practiced by the most experienced surgeons. In some cases, even, the disturbance caused by the single long sitting has actually been less severe than that previously occasioned in the same patient by the preliminary sounding, or by an exploratory introduction of the lithotrite preceding the final operation. The only explanation of this remarkable fact, so little to be expected from the accepted teachings on the subject, is that proposed by Dr. Bigelow, namely, that the working of the lithotrite within the bladder is far less harmful than the fragments which have hitherto been left behind. Any disturbance of the bladder by instruments, then, however slight, be it only the introduction of a sound, is liable to exert the most injurious

<sup>1</sup> See the JOURNAL, February 28 and March 7, 1878.



effects if the stone be left behind to continue and increase the local irritation ; while, on the other hand, the protracted manipulation of large and powerful instruments is likely to be well tolerated, provided only that the operation is so conducted as to eventuate in the complete removal of the offending foreign body.

The difficulties and risks of Dr. Bigelow's operation depend mainly upon its occasional long duration. Any very protracted operation, involving delicate manipulation, is necessarily attended by more or less fatigue, both bodily and mental. Not only is the operator liable to increasing muscular fatigue, but his attention and his senses also grow weary ; the tactile and the so-called muscular sense lose their delicacy of perception, and the surgeon, unless forewarned and keeping careful watch over himself, is liable, after a while, to apply more force than he is aware of to the delicate parts upon which he is operating.

The most difficult step of the operation is, perhaps, the introduction of the evacuating catheter. This must in every case be the very largest in calibre that it is possible to insinuate through the urethra. The shape of the instrument, however, is so designed, with a view to efficient evacuation, as to render it somewhat unfavorable for easy introduction. On this account a wide, easily traversed urethra is always very much to be desired, and the presence of stricture, even in a very slight degree, is a decided barrier to the easy or successful performance of the operation.

The advantages of the new method appear quite conspicuously, I think, in some of the cases which have been published. In the first place it has thus far proved to be quite a safe procedure. Out of a total of thirteen cases of which I have knowledge, which comprise all the instances in which "rapid lithotrity" has as yet been performed, in only one was the operation the cause of a fatal termination. That was the case of a feeble, prematurely aged patient of sixty-six, whose kidneys, in all probability, were in such an advanced state of latent disease as to preclude the possibility of benefit by any operative treatment. The mortality attending the operation, in the limited number of cases where it has been performed, has therefore been the same as that lately stated by Sir Henry Thompson<sup>1</sup> as the result of his entire experience with lithotrity, namely, one death in every thirteen cases.

Not only has the operation thus proved quite devoid of immediate danger, notwithstanding the inexperience of those who have resorted to it for the first time, but the recovery of the patients has been remarkably rapid and complete. In my first case the patient was up in less than a week, and he was out at the end of ten days, having probably been kept confined several days longer than was really necessary. Ever since the operation, moreover, his urine has remained clear. Dr.

<sup>1</sup> See the *Lancet*, March 16, 1878, page 385.

Porter's patient was discharged from the hospital, well, three days after a sitting lasting nearly four hours, in which gravel weighing seven hundred and six grains was removed.

While doing less immediate violence to the patient than lithotomy, the treatment by "rapid lithotrity" certainly does not tax his endurance — his "staying-powers," to use the slang phrase — so severely as does lithotrity practiced in the usual dilatory way. It therefore seems not unlikely to prove a safer operation than either of the older procedures for aged patients, as well as for cases where considerable loss of strength has resulted from sufferings of long duration or from a complication of diseases. *A fortiori*, in a simple, uncomplicated case, with a medium sized or even a large stone, and a wide urethra, the new method seems to me preferable to either of the other operations.

With regard to the question of indications there remains but little to be added. Provided the stone is not so large or so hard as to make its fragmentation by the lithotrite mechanically impossible; if the patient is not so reduced in strength as to render all operative treatment unadvisable; and if his urethra is sufficiently wide to admit a fair-sized tube, say from twenty-eight to thirty-one in calibre, "rapid lithotrity" can be performed with good prospects of a speedy and complete recovery. The only serious counter-indication to this particular method of treatment is the presence of an obstacle preventing the introduction of large instruments. In many cases, however, of slight stricture a preliminary treatment by internal urethrotomy or by large bougies would probably suffice to set aside this difficulty, and to render the new operation feasible.

Further experience alone can show the capabilities and the limitations of lithotrity as practiced by Dr. Bigelow. Sir Henry Thompson<sup>1</sup> has lately laid much stress upon the disadvantages and dangers attending lithotrity when applied to stones exceeding "a moderate size." In a recent discussion before the Royal Medical and Chirurgical Society upon the treatment of stone in the bladder, he said that "he thought lithotrity was still preferable where the stone might be crushed at three or at most four sittings. Beyond that he was not as a rule prepared to go, and at that point he should mostly prefer to cut." Sir James Paget, who also took part in the discussion, was disposed to confine lithotrity within even narrower limits, saying that "were he to begin an active surgical life again, he would begin with lithotomy, and reserve for lithotrity only those few cases in which the calculus could be got rid of in two or three sittings." According to the *Lancet*, commenting upon the statements made by Sir Henry Thompson, "the inference to be drawn from his full and complete experience is that lithotrity is, as a rule, unsuitable for stones more than an inch in their long diameter —

<sup>1</sup> The *Lancet*, February 2, 1878, page 159; March 16, 1878, page 385.



the actual limit varying with the nature of the calculi — and for those that require the fenestrated bladed lithotrite. For such lithotomy should be employed.”

The dangers of lithotrity, which are dependent mainly upon the injury liable to be incurred by the vesical mucous membrane in consequence of the prolonged presence of fragments, appear so great to the experienced authorities quoted above as to lead them, in cases where the stone exceeds certain quite narrow limits, to prefer lithotomy with all its well-known perils. It seems to me, however, that when the size of the stone or the age or feebleness of the patient are unfavorable to lithotrity, they must also weigh with great force against the cutting operation, which, as the lately published experience of Sir Henry Thompson shows, is attended in the most skillful hands by a mortality exceeding thirty-seven per cent. when practiced upon adults in cases unfit for lithotrity. Inasmuch as the risks of injury to the bladder from retained fragments are wholly avoided by their immediate and complete removal, the operation devised by Dr. Bigelow seems not unlikely to take the place of lithotomy with advantage in cases where the treatment by multiple sittings of lithotrity appears to be counter-indicated. It should not be forgotten that the great aim of the surgeon is to get rid of the stone in the shortest time with the least damage to the patient. That this result can be accomplished by means of “rapid lithotrity with evacuation” the cases already published suffice to show.

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## GUN-SHOT FRACTURE OF SKULL.

BY J. O. WHITNEY, M. D., PAWTUCKET, R. I.

LOVECA ROOT MALEY, aged twenty-three years, died on April 7th, forty-seven hours after a fatal wound from a misshot by another actress, a victim to the dangerous sport of having an apple shot from her head.

The range was but nine feet, with an elevation upwards at the rate of one and a quarter inches to the foot. The ball (No. 22, conical) entered a little to the left of the centre and fairly within the hair, her head being erect. It struck the skull at a very acute angle, shattering it, and knocking a hole in it, and passed onward and out of the scalp about an inch and a half from the place of entrance. Both scalp wounds were circular; the flesh at the anterior one turned in, and the other turned out, and about the latter the hair was filled with powdered bone and bits of “fibre,” no doubt a part of the diploë. A few scales of bone were found also, one clearly from the internal table. There was not the least doubt that the longitudinal sinus was opened, for she was deluged with venous blood, and the brain was exuding from the anterior scalp wound. The violence of the bleeding ceased in a short time,

but again returned in four or five hours. It seemed that she would die at once from shock. The pulse was nearly gone; pupils normal; convulsive movements in all the extremities, but most on the left side. In twelve hours reaction was fair, and she was removed from the operating-house, where the affair had taken place, to her hotel. She had urinated unconsciously. She showed no signs of intelligence farther than swallowing water from a teaspoon, although the attendants say emphatically that she made responsive expressions to inquiries. At first the pupils responded to the stimulus of light. At the end of twenty hours the pulse was strong, full, and becoming irregular. The breathing also was a little irregular, and the pupils began to dilate, but were equal.

There was no notable change in these symptoms, but a gradual increase of them till death, which was abrupt, and entirely unexpected at the moment, although not the least encouragement of recovery had been given to the friends.

The town authorities came to the conclusion, tardily, to hold a coroner's inquest; the body being ready for transportation to Western New York, and the friends very much opposed to a post-mortem examination, it was not ordered.

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## RECENT PROGRESS IN MILITARY SURGERY.<sup>1</sup>

BY G. A. OTIS, M. D.

PROCEEDING from this point, the commission insists, from well-established facts and clinical experiments and hospital observations on the process of putrefaction, concerning the influence of the different relations of putrid matter with the air, that in every wound there is nothing harmful save the condition of want of free access of air, which produces the most pernicious form of putrefaction. On the other hand, the free admission of the air, as well as its absolute exclusion or *hermetism*, is invariably favorable to healing and the prevention of complications. The hurtful influence of porous bodies, as bandages, threads, and the like, becomes easy to understand. To avoid the harmful causes of the want of open ingress of air and to combine exclusively the favorable conditions of the treatment were two distinct practical problems to solve, the fundamental principle being postulated. The commission contends that the general method of aeration for treating wounds and granulating surfaces, tested by three years' discussion and experiment, satisfies by the simplest precepts the requirements of these two problems, and for the simplicity of its application, rational and strict precision in dealing with the wound and patient, facility in supervising the wound, and rapidity and economy of treatment commends the method to surgeons and administrators. Looking at the natural healing of wounds in man and the lower animals without medical intervention, the commission urges that one is amazed at the abundance of means that the living organism uses in struggling with external agents of the decom-

<sup>1</sup> Concluded from page 535.



position of dead matter. The almost invariable absence of signs of gangrene in an open wound is not less striking, though regularly appearing in wounds covered with porous dressings. In every lesion of continuity, whatever its depth, is observed a liquid, at first limpid, then more or less sanguinolent, then purulent, forming over all the surface of the wound, driving the air from different crevices, and covering the whole with a continuous layer through which it remains in contact with the ambient air. That the superficial layer of the effused liquid dries in a crust, or the crust forms at the edges only, according to the depth or extent of the wound, is indifferent; healing is unimpeded, and no complication supervenes. Such a free contact of the wound with the air meets precisely the conditions of free access of air, which exclude between the air and wound every space that might permit the confinement of air; and observation proves that these relations are natural and adapted to the favorable progress of wounds, and demonstrates that whatever the means by which the natural situations of healing are attained, — whether by increasing the quantity of liquid that fills the wound, or accelerating the formation of a crust, or by forming a dry eschar by the aid of caustics, — the favorable progress of the wound is promoted as the important terms are not infringed. Just the opposite is observed when there are formed within the surface of the wound and the ambient air free spaces and crannies, which are not in immediate relation with the ambient air. Whether these circumstances are found either in the wound itself or in the porous dressings applied to it, when signs of putrefaction and phenomena of irritation, hyperæmia, and inflammation become palpable; whether putrefaction makes rapid progress in such predicaments and its marked physiological effects are hastened; or whether, because of the fortuitous invasion of most potent putrid agents, the formation of poisonous products immediately commences, it is certain that the privation of the free access of air is the condition that interferes with the natural relations above mentioned, and constitutes the principal source of grave septic complications so justly called the scourge of surgical wards. “Consequently” the commission holds that “the fundamental rules of the *aeration method* consist in avoiding in every way the causes of the free access of air; in not permitting of any porous body on the surface or in the depths of a wound; in seeking to place the wound in the favorable conditions above mentioned; lastly, in cases of urgent necessity for the toleration of some kind of porous bodies, by having recourse to the most energetic means of rendering them harmless, that is, by destroying their porosity and by disinfecting them.”

The second part of the report of the Russian commission is devoted to minute details of the practical application of the aeration method: (1) the treatment of wounds by first intention, including amputation and other incised wounds; (2) the treatment of suppurating wounds; (3) shot wounds; (4) compound fractures; (5) resection wounds; (6) granulating surfaces. We have not space to enter upon any of these details. The wood-cut on the following page will give an idea of the numerous illustrations contained in the report for treating operative and other wounds without further intervention than metallic sutures, catgut ligatures, and absolutely essential means of support and protection.

The statistical facts on which the commission rely as demonstrating that under the aeration method amputation wounds result more successfully by fifty per cent. than in the open treatment of Dr. Rose, of Zürich, and that the antiseptic or Lister treatment is not incompatible with the aeration method, are still "in press" and inaccessible.



Aeration treatment of thigh stumps (after Kostarev).

It had been my purpose to review the experience of antiseptic treatment in military surgery, especially in actual field practice, but want of space forbids. The readers of the JOURNAL are familiar with the papers of Dr. Goss and Dr. R. White.<sup>1</sup> Assistant-Surgeon A. C. Girard's report to Surgeon-General Barnes on his personal observations of this treatment in the hands of its author and of Surgeon-General Nussbaum of the Bavarian army is reprinted in the *Medical Record*, 1877, vol. xii., page 721. Dr. Girard last winter received a letter from Professor Lister<sup>2</sup> on the use of the method for shot wounds of the knee-joint in actual field practice by a Russian military surgeon. Dr. Girard last year made suggestions for facilitating the antiseptic dressing by the use of worn-out mosquito bars prepared as antiseptic gauze, as described in the foot-note.<sup>3</sup> Excellent suggestions for diminishing the costliness of the antiseptic-

<sup>1</sup> White (R., Jr.), Personal Observations of Lister's Antiseptic Treatment, in Boston Medical and Surgical Journal, 1877, vol. xcvi., page 235.

<sup>2</sup> Assistant-Surgeon A. C. Girard, U. S. Army, received, at Fort Randall, Dakota, November 28, 1877, the following letter from Professor Lister on the successful use of the antiseptic dressing of shot wounds of the knee-joint by a Russian military surgeon: —

12 PARK CRESCENT, REGENT'S PARK, LONDON, October 24, 1877.

MY DEAR SIR, — Your kind letter and inclosed report have reached me to-day, and I hasten to tell you how much pleasure they have given me. The kind reception I met with while in America last year prepared me to learn before long that antiseptic treatment was taking root and bearing fruit there. What you say about the worst enemies of the system being those who profess to adopt it but fail to carry it out efficiently is perfectly true. It may interest you to learn that I received a few days ago a letter from a Russian surgeon who is in chief position with the Russian army in Asia Minor, and who, having learned antiseptic treatment in Edinburgh, had introduced it into his university clinic at Dorpat, and thence had transported it to the seat of war, taking with him the apparatus for preparing antiseptic gauze, showing that "where there's a will there's a way." And the results he is getting are certainly, as he expresses it, "*herrlich*." Thus seven successive cases of gun-shot wound of the knee-joint, almost all complicated with fracture, are recovering without inflammatory disturbance! I confess it was very gratifying to me to learn that the antiseptic treatment can really be effectually carried out in military practice. Thanking you again for your kind communication, I remain

Yours very sincerely,

(signed)

JOSEPH LISTER.

<sup>3</sup> The following is an extract from Assistant-Surgeon A. C. Girard's letter, dated Fort Randall, July 8, 1877: "During my sojourn abroad last winter I had occasion to satisfy myself of the wonderful success of wound treatment under Lister's system, and, since my arrival at this post, I have endeavored to carry out the same with the limited means at my disposal. The only objection to the system is the cost of dressings, and this I have tried to overcome and, I believe, have succeeded. The purpose of this letter is to submit suggestions which, if followed, will enable every surgeon to prepare his own dressings with a minimum expense to the department. The supply list enables me to keep on hand the different carbolic solutions, carbolic oil, the spray (with the steam atomizer, which, though furnishing a weak stream, is better than the 'local anesthesia apparatus'), the solution of chloride of zinc, the 'protective' (oiled silk dipped in carbolic starch and dried), the mackintosh (our rubber cloth), the 'antiseptic sponges and silk.' The only articles not supplied, or at



tic treatment are also brought forward by Mr. J. Chiene.<sup>1</sup> After the publication of Dr. Weir's valuable papers,<sup>2</sup> with a figure and description of the steam-spray apparatus manufactured by Tiemann & Co. under his supervision, the purveyor was enabled to supply the medical officers of the army with serviceable and comparatively inexpensive appliances for the antiseptic treatment.

I had designed also to advert to the contributions on M. Guérin's cotton-wool dressings, to which many of the French military surgeons<sup>3</sup> have largely resorted, and which is well described in the *JOURNAL* from personal observations by Dr. T. B. Curtis,<sup>4</sup> and had wished particularly to call attention to the good results that military surgeons have had in treating lacerated wounds of the extremities by continuous immersion in tepid baths, as recommended by Professors Hamilton,<sup>5</sup> Langenbeck, and Spence. But I have room only to urge the briefest comments on the antiseptic and open or aeration method of treating wounds. Of the former there remains, as Dr. Emmert<sup>6</sup> has well said, the question whether the success of the Lister treatment should be ascribed to the antiseptic powers of the carbolic acid and its mode of application, or to minute preservation of cleanliness in the entire sphere of the wound, the careful ligation of the vessel, the removal of all blood coagula, the provision for the escape of wound secretions, the careful approximation and occlusion of the wound,—thus excluding all possible mechanical irritation, etc.,—in short, the rigid observance of completely rational rules of wound treatment. The majority of practical surgeons, viewing the good results of Professor Thiersch

least not in sufficient quantity, are the 'gauze' and the carbolized catgut. The latter is easily prepared if Lister's rules are strictly observed. The gauze offers more difficulties, which, however, I have succeeded in overcoming. Being at a loss what dressing of those on hand to select, I chose at first the patent lint, the most porous, but found that it lost by the preparation all its absorbent power. Having on hand a number of old unbleached mosquito bars, which, being somewhat torn, had to be condemned, I thought them a good substitute, and, after preparation, used them in the dressing of an amputation in the metatarsus, with complete success, for on removal of the gauze not the slightest smell could be perceived in the discharge. Nearly every army hospital has a few of these mosquito bars on hand awaiting the action of an inspector, and by preparing from them antiseptic gauze they would be put to better use than conversion to mop rags. The following is the mode of preparation which I found most convenient and suitable: They should first be ripped; then steeped in lye for twenty-four hours, to remove not only noxious substances, but to improve the absorbent power of the fibre by removing fatty matters. Then steep them in Lister's mixture of crystallized carbolic acid one, common resin five, paraffin seven parts. . . . This mixture is best obtained by dissolving the resin and paraffin in a tin bucket on the stove and adding the carbolic acid when the solution is made. I obtained the best results by steeping and heating the gauze in the solution on the stove, as thus it does not harden so quickly when the surplus is pressed out. To effect the latter I found the most convenient mode to be to pass the gauze through a clothes-wringer, of which there is a specimen at nearly every post. The instrument is not injured thereby, and can easily be cleaned with hot water and a cloth. After pressing out all the surplus liquid and cooling the stuff, it should be stretched into shape, rolled up, and kept in some air-tight receptacle, like a tin bucket or boiler, until needed for use.'

<sup>1</sup> Chiene (J.), *The Antiseptic Dressing of Wounds*, in *Edinburgh Medical Journal*, 1877, No. cclxx., page 509.

<sup>2</sup> Weir (R. F.), *On the Antiseptic Treatment of Wounds and its Results*, in *New York Medical Journal*, December, 1877, and January, 1878, vol. xxvi., page 561, vol. xxvii., page 30, and republished in pamphlet form.

<sup>3</sup> Fiaux (M. L.), *Note sur l'Application du Pansement ouaté de M. A. Guérin*, in *Recueil de Mém. de Méd.*, etc., 1872, 3ème ser., tome xxviii., page 366. Cassedebat, *Étude comparée des divers Modes de Pansement des grandes Plaies*, in *Arch. gén. de Méd.*, Février, 1878, tome xxxvi., page 154.

<sup>4</sup> Curtis (T. B.), *Cotton-Wool Dressings for Wounds*, in *Boston Medical and Surgical Journal*, 1874, vol. xci., page 197.

<sup>5</sup> Hamilton (F. H.), *Use of Warm and Hot Water in Surgery*, in *New York Medical Record*, May 15, 1874. Langenbeck (B.), *Das permanente warm Wasserbad zur Behandlung grösserer Wunden*, insbesondere der Amputationsstümpfe, in *Deutsche Klinik*, 1855, No. 37, page 409. Spence (J.), *Address in Surgery at the Forty Third Meeting of the British Medical Association*, Edinburgh, August, 1875; *On the Treatment of Wounds and Surgical Dressings*, in *British Medical Journal*, 1875, vol. ii., page 197.

<sup>6</sup> Emmert (C.), *Ueber moderne Methoden der Wundbehandlung*, in *Archiv für klin. Chir.*, 1874, Bd. xvi. page 102.

with salicylic acid dressing, and of M. Guérin with carbolized raw cotton, and their personal experience with the several antiseptic methods, are disposed to attribute the good results mainly to the series of wholesome precautions above enumerated.<sup>1</sup> So, likewise, in regard to the open treatment. Examples multiply of the favorable results attending this method when instituted with the rigorous adhesion and minute attention to the rational principles and salutary precautions on which all surgeons are agreed,<sup>2</sup> and which have been so well taught us by Hunter, and John Bell, and Liston, and Syme, and Professor Spence in his sound address at the forty-third meeting of the British Medical Association.

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## PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. G. CUTLER, M. D., SECRETARY.

JANUARY 14, 1878. *Fractured Patella.* — DR. JACKSON showed the specimens, and reported the case. The patient was a practicing physician, fifty-eight years of age, and broke the right patella between fifteen and sixteen years before his death by a fall upon the ice and a direct blow upon the bone. The separation of the fragments was not far from an inch. His brother, who is also a physician, applied two strong bandages, one above and the other below the joint, tied them firmly together, and then placed the limb upon a straight splint with the thigh flexed upon the pelvis. The treatment was continued for some weeks, and with so good result that the patient felt perfectly sure that there was bony union; "one of these days," he had often said to Dr. Jackson, "you will see that it is so." The union was so very close and firm that after removal, with all the force that could be used, not the slightest motion between the fragments could be felt, and it would have been regarded as a bony union if it had not been either sawed or macerated. Three longitudinal sections, however, were made through the bone, and it was proved, so far as these would show, that at no one point were the fragments united by bone. The union was as close as possible, but by a very dense and fibrous tissue that practically would be quite as serviceable as bone. The patella was considerably elongated, and upon the under surface the cartilage seemed to be as directly continuous between the fragments to the extent of about two lines, as if the bone had never been broken.

A very remarkable peculiarity in the specimen was an extensive and pretty well defined depression of the anterior surface of the bone. It was so marked

<sup>1</sup> Among pathologists who have written ably in favor of this view may be mentioned: Massini, *Lister's Antiseptischer Verband*, in *Schweizer Correspondenz-Blatt*, 1872, Nos. 15, 16; Schultze, *Ueber Lister's Antiseptische Wundbehandlung*, in *Sammlung klinischer Vorträge*, 1873, No. 52, Leipzig.

<sup>2</sup> Esmarch (Fr.) (*Verbandplatz und Feldlazareth*, zweite vermehrte Auflage, Berlin, 1871, S. 55) argues in favor of the open-wound treatment, and denounces the "mechanical manner in which sticking-plaster bandages are employed by many surgeons." And Passavant (G.) (*Bemerkungen aus dem Gebiete der Kriegschirurgie*, in *Berliner klin. Wochenschrift*, 1871, No. 3) says that the excellent results of Bartscher's open-wound treatment induced him to imitate this simple method, and declares that he was highly astonished at his own success. Dr. Goss (*loc. cit.*, page 77) calls attention to the liability of danger of intermediary and secondary hæmorrhage in the open method from lack of sufficient support to the divided vessels of the wound. Accidents had actually occurred to Mr. C. De Morgan in cases of amputation of the thigh and extirpation of the mamma in patients treated at the Middlesex Hospital by the open method. (Cases illustrating the Open Treatment of Wounds, in *The Lancet*, 1874, vol. i., page 570.)



as to attract attention at once, and it was an appearance that Dr. Jackson had never before seen in any specimen, recent or prepared. The fibrous substance over the bone and within the limits of the depressed surface seemed no thicker than elsewhere. As the fracture was the result of direct violence, Dr. Jackson suggested as an explanation of the depression that there may have been, besides the fracture, a crushing down of the cancellated structure, as is sometimes seen in the bodies of the vertebræ in the case of fracture, the injury being so far recovered from, after a period of fifteen years, that no trace is to be seen of it on section of the bone.

About six months before the patient's death he broke the left patella, and undoubtedly by muscular action, as he fell when going down-stairs in consequence of catching the heel of his boot. In this case the fragments are strongly united by fibrous substance, but with a separation of about one half of an inch.

Dr. Jackson showed a patella from the society's museum, in which there was strong bony union after a partially transverse fracture. He also referred to a specimen that he had recently seen in the Army Medical Museum, in Washington, of complete transverse fracture, through about the middle of the bone, with firm bony union. In the museum of the College of Physicians, in Philadelphia, there are also two specimens, one in which the union is by solid bone, but not complete or continuous. The other appears to have had essentially a similar result, but requires a further examination. In the Army Museum there is also a very fine specimen of stellate fracture, with strong bony union. All of these last had been macerated.

DR. HODGES, in commenting on the specimens, said with regard to the first that, though the explanation given by Dr. Jackson might be correct, he was inclined to the belief that there had been a growth of new bone between the fragments. He founded his belief on the following facts: When the bone is fractured it cracks open, and there is a tilting up of the fragments. In the specimen referred to the anterior or superficial surface of the patella showed that the gap between the two fragments had been greater than on the posterior or deep surface towards the joint. The greater extent of the anterior surface demonstrated the existence of the usual tilting up of the fragments, while the length of the bone itself, which was much greater than a normal patella, indicated that there had been a very considerable filling in of new bone tissue between the fragments. In this case the increase in length of the bone was due apparently to an increase of bone outside the articular surface. He would confess, however, that on his own theory it was hard to explain why the union by bone had not been entire. The second specimen, where the treatment seems to have been the same, shows that chance is a great factor in the result.

DR. BIGELOW coincided with the view entertained by Dr. Hodges regarding the first specimen.

DR. DAMON considered that the stellate form of fracture gave rise to less deformity than the transverse; he mentioned a case in point, where fracture occurred, crepitus was found, and recovery without deformity resulted.

DR. JACKSON said that there was a patella in the cabinet of the society which presented the stellate form of fracture, and in which there was no deformity.

JANUARY 28, 1878. DR. WILLIAMS read a paper on Eserine and Pilocarpine in the Treatment of Eye Disease, which appeared in full in the JOURNAL of March 28, 1878.

*Morphia Habit.* — DR. LYMAN presented the following case as an oral communication. Mrs. W., aged forty-seven, married, had consulted him on January 4, 1878, and gave the following history : At eighteen years of age, under the advice of her physician, she began to take small doses of morphia for some obscure pains about the lumbar region and kidneys. She continued this *unadvisedly*, gradually increasing the quantity until she was twenty-four, and without intermission, except that at one time for a period of three months it was discontinued, but the craving became so incessant and tormenting that she felt compelled to resume it. Four years since she tried a specialist in Indiana, whose remedy she was assured contained no morphia, but suspecting from its effect that this statement was not true she submitted the remedy to Professor Wood, of the Harvard Medical School, for analysis, who fully confirmed the accuracy of her suspicions. With these exceptions she has since the age of twenty-four averaged daily the same amount that she takes at present. Her husband weighs out each morning four powders of four grains each, the whole sixteen grains being taken usually before midday. Occasionally she takes one half, that is, eight grains at a single dose in the morning, and the remaining eight sometimes separately and sometimes together during the day. These slight variations in the method and hours of taking are governed by her own feelings. Sometimes she has a morbid fear, "an indefinable dread," of sleep, and passes several nights in succession without lying down. She complains only of restlessness and an inability for quiet occupation, some excitement being necessary to prevent drowsiness. Sometimes she drops asleep suddenly when in the horse-cars, or at the theatre, or at her own table, subjecting herself to much mortification. Otherwise she thinks that no one would suspect the habit. She is now in good flesh, though a small eater, and with indifferent appetite. General appearance decidedly anæmic; no disturbance of renal or cardiac functions; when asleep is tranquil, and without dreams; bowels regular with assistance of injection; and the catamenia were always regular until the menopause, a year ago.

Mrs. W. readily consented to a reduction of the dose to twelve grains daily, equivalent to a diminution of one fourth.

January 27th she reported that she had persevered with the reduced dose without any excessive inconvenience, and was to try a farther reduction of two grains daily. In view of the age of the patient, the long continuance of the habit (more than half her life), and the comparatively trifling effect upon her general physical and mental condition, Dr. Lyman thought it unwise, and indeed she would not consent, to make any attempt at sudden total abstinence, feeling confident that it would result in more injury than benefit.

Dr. Lyman also mentioned another case, in which a young woman, having received subcutaneous injections of morphia, acquired the habit of injecting herself. He brought about a discontinuance of the practice by advising the ordinary dose to be diluted one half with water, which was finally reduced to injections of water alone, which in turn was diminished in quantity, and finally stopped entirely.



DR. MINOT spoke of a case of the morphia habit in a woman. He had sent the patient to Dr. Day, who had stopped the morphia at once. It is believed the patient never resumed the habit.

DR. LYMAN mentioned a case he had previously reported to the society, in which a man had acquired the habit of drinking a wineglass of laudanum three or four times a day. In treating him he had never been able to get below a teaspoonful dose, which was still continued.

DR. WILLIAMS had seen a case of the opium habit consequent on an exhibition of the drug in repeated attacks of iritis. The habit was so confirmed that the patient had consulted him with the idea of having the eye removed, thinking that this might aid him in breaking off the habit. The operation was contra-advised from lack of evidence and other reasons, and the patient was cautioned to leave off the opium by the gradual method; this course was pursued, and he is now cured. The method of administration had been subcutaneous.

*Caries of the Temporal Bone.* — DR. J. O. GREEN related the following case, and illustrated his remarks by a prepared specimen: A boy, aged eleven years, during an entire night last spring suffered from earache. The pain was followed by a slight discharge, which has continued ever since. When presented for examination the membrana tympani was healthy; just outside the tympanum and above there was a small mass of granulations, which were cauterized with good effect. The probe showed a small cavity at the seat of the former granulations, three millimetres long and one and a half wide, just outside the drum, and in it were some polypi, which were removed. The anatomy of the parts showed that but a very thin layer of bone existed between the bottom of the cavity and the brain. There had been no subjective noises and no trouble with the hearing; the caries had proceeded without symptoms with the exception of the slight discharge mentioned. The risk of such a case is evident.

*New Apparatus for Fractures of the Leg.* — DR. T. B. CURTIS showed the apparatus, a full description of which, accompanied by a plate, will appear in the JOURNAL shortly.

FEBRUARY 11, 1878. *Aortic Aneurism.* — Case reported by DR. LYMAN, who also showed the specimen. E. A. S., a mariner, aged forty-eight, married, entered the City Hospital August 22, 1877. The patient then said he had been in good health until fifteen months before, when he was attacked with vomiting and irregular action of the bowels, diarrhœa and constipation alternating. He said that he had had a cough, with viscid sputa, for the same time, often so severe as to disturb his sleep, and occasionally resulting in vomiting. He had worked for some years in a grain elevator, where there was much dust; more recently he went to sea for two months, which relieved his cough. He complained at the time of his entrance to the hospital of frequent palpitation, with severe pain in the cardiac region, left shoulder, and arm. A year ago he first noticed a pulsating spot over the third rib below the middle of the left clavicle; this impulse is now very manifest over a space three inches by two. There is a loud, well-marked souffle, diminishing in intensity from the base to the apex

of the heart. No perceptible thrill. No difference in pulse of radials. The souffle is distinct in the scapular region, but less so than in front. He was put upon the iodide of potassium, twenty grains daily, and chloral hydrate *pro re nata*.

The next day he reported that he had slept better the night before, though the pain in the left shoulder and arm at the time of the visit was more severe.

Four days later he was much relieved. He had had but one attack of dyspnoea and palpitation in the past forty-eight hours. Had slept well, and had a good appetite.

September 2d (a week later), the iodide was increased to thirty grains. The cough had begun to be very troublesome and continuous, and for this reason *tinctura opii* was ordered as occasion required. For the next ten days cough, pain, and restless nights were the chief complaints.

On the 16th the record was as follows: A decided thrill is now perceptible in the tumor. The souffle in the tumor extends to the subclavian of the left side, and is still more extensive on the right side. The pulse in the right radial is now noticed to be sharp, quick, and firm, the pulse in the left being soft and full.

Respiration normal in right front, obscure in left front, and the same in the back. Bronchophony in the neighborhood of the tumor. He was ordered *digitalis* and *cannabis indica*, but they disagreed with him, and he was obliged to resume morphia, as that only gave relief, and from this time it was given freely to relieve his distress.

November 25th, a violent fit of coughing was induced by an attempt to swallow a purgative pill. The patient complained of gastric irritation. For the past ten weeks he had been kept absolutely at rest, generally on his right side, and upon a low diet, with iodide of potassium and tincture of aconite, but the effect in slowing the pulse was never very marked. The 7th of October his pulse was 110, and for a few days it came down, occasionally below 90, but ranging generally from 90 to 100 until his death.

December 9th the gastric irritation had become so prominent that the iodide of potassium and aconite were omitted and not again resumed. He grew slowly but steadily worse, and died of exhaustion on the 12th of January, 1878.

Autopsy, twenty-four hours after death. Both lungs adherent posteriorly; nutmeg appearance of the liver; kidneys, spleen, and intestines normal. The heart was removed and placed in alcohol, and reported on by Dr. Bolles a fortnight later as follows: The tissues are partially shrunken and discolored. Heart as a whole not enlarged, but right ventricle considerably hypertrophied and dilated. Valves of right side normal; left side not hypertrophied, mitral valve normal, aortic valves somewhat stiffened. Immediately above the valves the aorta was dilated to the size of the closed fist, the dilatation extending so high as to include the origin of the innominate artery. The walls of the aneurism were generally thickened, except in one spot posteriorly. Over a large part of its circumference there was a deposition of fibrine in layers varying from one eighth to three quarters of an inch in thickness.

*Aneurism of the Arch of the Aorta.* — DR. LYMAN reported the case at a



previous meeting. J. H., a widower, aged forty-seven, entered the City Hospital September 11, 1877, under the care of Dr. Draper. By occupation he was a machinist, but his work, "attending a boring drill," was not heavy or straining. In February, 1876 (nineteen months before), he first noticed pains in his neck and shoulders. The pains sometimes were so severe as to deprive him of sleep when in the recumbent posture, and obliged him to sit up and rest his head on a table. Fifteen months before, in June, 1876, he perceived pulsation above the right clavicle. This is *now* well marked over both clavicles. Pain at *present* less severe, but the patient complains of excessive dyspnoea. He gets but three or four hours' sleep at night because of "strange, dull sensations in the chest." Cough varies in severity. Appetite poor. The patient has never been subjected to heavy straining at his work, but left off work a week before his entrance to the hospital, as he "felt it to be killing him." He has been better since then.

Upon examination the left side of the chest was more full than the right. Loud musical soufflé at the apex of the heart, barely audible at the base; pulsation above and below both clavicles. Right radial pulse much the stronger. Five days later, decided aortic obstructive and regurgitant murmurs were noted. There was a slight thrill beneath the right and above the left clavicles, not extending into the carotids. A foramen the size of a dime was observed in the upper part of the sternum. The patient was anæmic. In October Dr. Lyman assumed charge of the patient and confirmed the above observations. A slight thrill extended perceptibly into the right pulse. There was a loud systolic murmur at the third intercostal space at the left of the sternum, *diminishing downwards*; it extended above to the right and left clavicles, and was very loud and rasping in the right supra-clavicular space. The patient was ordered absolute rest in the recumbent position, reduced diet, and twenty grains of the iodide of potassium three times a day.

Three weeks afterwards the intensity of the murmur was found to be somewhat diminished. Two inches below the nipple a marked to-and-fro sound was observed, with occasional intermissions. Four days later, the pulse not being any slower (104 in the minute), aconite was added to the treatment.

One week later, November 1st, the dyspnoea and cough had increased, and caused great suffering. Neither morphia nor chloral gave relief. Obstruction to the pulmonary circulation became more and more manifest, and sonorous and sibilant râles completely masked the cardiac murmurs. The recumbent position became no longer possible, and from this time attention was given only to measures of temporary relief, chiefly by chlorodyne and opium. The patient continued in this state for about two weeks longer, and on the 16th his only relief was obtained by lying across a small table at right angles, with his feet on the floor. At this time his dyspnoea was excessive, and he was afraid to lie down or cough; anasarca was noticed for the first time. The patient died the following day.

At the autopsy there was found to be an aneurism of the arch of the aorta near the innominate, communication with the aorta being by a small opening. In shape the aneurism resembled a cone with its base attached to the sternum, a part of the manubrium being eroded through. It was irregularly triangular

in form, the base measuring two and a half inches in its broadest diameter. The aortic opening, of about the size of a thumb, was obstructed by a soft clot. The cavity of the aneurism was nearly filled with hard laminated fibrine not of recent deposit. The ascending and transverse portions of the aorta were dilated; the innominate and all the large vessels from the arch had aneurismal dilatation for an inch or two. The heart was dilated, its mitral orifice not much enlarged; the aortic orifice was dilated, and the edges calcified. The aorta was atheromatous.

FEBRUARY 25, 1878. *Hernia treated by Heaton's Method.* — DR. LANGMAID showed two children on whom he had operated by the injection method of Heaton.

CASE I. Leo, aged four years, entered the Children's Hospital September 16, 1877. He had a fall a short time before his entrance into the hospital, and the same night complained of pain in the groin; a small tumor was discovered in the left inguinal region, which has since become a complete scrotal hernia.

In November and December the patient was twice operated on at intervals of about three weeks. Very slight inflammation followed the operations, but the hernia returned, it is believed from the impossibility of keeping the hernia bandage well in place. January 8, 1878, he was operated upon for the third time, and a bandage was applied. The hernia returned in three hours, and could not be reduced. Three days later it was found to have disappeared of itself. There is now a dense, firm plug of plastic lymph (?) filling the inguinal canal, and apparently keeping back the hernia.

CASE II. Louis, aged three years, had a double congenital inguinal hernia. He was operated on in December by Heaton's method. In this case there was considerable inflammation, and a severe epididymitis of the right side, due to the needle having been passed through the invaginated scrotum. In this case as in the previous one the inguinal canals are filled by a plug, which on the right side accompanies the cord nearly to the bottom of the scrotum. The hernias have never returned.

Dr. Langmaid said, in answer to Dr. Bigelow, that the nature of the fluid injected governs the amount of inflammation. There had been but a single occasion when the inflammation had been at all great.

DR. BRADFORD said that English, of Vienna, injects alcohol, a still greater irritant than white-oak bark, without bad effect. His experiments had been carried on quite independently of those of Heaton.

*Cancer of the Trachea.* — DR. G. C. SHATTUCK reported the case of a man who entered the Massachusetts General Hospital on the 30th of January, suffering from extreme dyspnoea and hoarseness, with some difficulty in swallowing. These symptoms were all attributed to taking cold about a month previous to his entrance. The larynx was examined by Dr. Knight, who found that there was paralysis of the right posterior crico-arytenoid muscle, but that the dyspnoea was evidently due to some obstruction in the trachea, a view of which could not be obtained on account of the distress of the patient. The right vocal cord was intensely congested at the time of this examination. The pa-



tient died February 11, the dyspnœa being urgent during the greater part of his illness. Temporary relief was obtained by the subcutaneous injection of morphinæ sulph. a sixth and atropiæ sulph. a sixtieth of a grain in combination. An examination with the laryngoscope by Dr. Knight at this time showed that the congestion of the right vocal cord mentioned above had almost wholly disappeared. The last two days of his life there was bloody expectoration.

The autopsy was made by Dr. R. H. Fitz, who found the trachea to be distorted and obstructed by a cancerous tumor of the size of a small lemon lying between the trachea and œsophagus, and extending from just below the thyroid body to the innominate artery. From its anterior portion a soft, nodular mass projected into the trachea, diminishing the canal of the latter at least two thirds. The œsophagus was so compressed as barely to admit the little finger. The growth presented the structure of an epithelial cancer, yet the lining membrane of the œsophagus was freely movable over it, although the muscular coat was intimately united with the surface of the tumor.

The right pneumogastric nerve was flattened and closely adherent to the lower border of the tumor at the point where the nerve passes in front of the right subclavian artery.

The lungs did not collapse in their removal from the thorax, were intensely injected, and but slightly œdematous. The larger and smaller bronchi were filled with muco-purulent fluid, and a recent moderate reddish-gray and somewhat translucent infiltration was observed at the base of the right lung, the pleural surface of which was slightly adherent to the thoracic wall by fresh adhesions.

*Thrombosis of the Inferior Cava.* — DR. SHATTUCK also reported a case of cancer of the liver giving rise to thrombosis of the inferior vena cava, death eventually occurring from embolism of the pulmonary artery.

The patient, a man sixty-seven years of age, had been well till three months before, when he was suddenly seized with a chill, followed by vomiting and fever. A similar attack occurred on the next day. Since then there has been occasional chilliness, slight cough, and difficult breathing, with sleeplessness at night. His appetite had been fair, and he had been able to work at his trade, upholstery. When first seen he complained of epigastric pains, swollen feet, and wakefulness. He stated that he had lost much flesh and strength. His face was pale and his expression anxious; an ill-defined hardness could be felt just below the xiphoid cartilage, but no distinct tumor. He remained under treatment only a week, during which time he had a quick pulse and a temperature of 102° F., with diminished resonance and subcrepitant râle over the right back. His mind wandered somewhat, and his death finally took place very suddenly. The heart-sounds were normal.

Dr. Fitz had made the autopsy, and stated that in addition to the pulmonary embolism there was an acute fibrinous pneumonia in the upper lobe of the right lung. The cancer of the liver formed a rounded mass of the size of the two fists, projecting from the upper surface, and adherent to the diaphragm. The hepatic wall of the vena cava was thickened, and contained an adherent decolorized thrombus some two inches in length, nearly filling the canal. It

was continued downwards into both iliac veins by recent thrombosis. The upper portion of the thrombus had been cut across in removing the heart, but from the appearance of the cut edge it was evident that the clot must have extended into the right auricle.

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### DANGEROUS AMUSEMENTS.

AN illustration of the great risk to life which accompanies some of the entertainments now offered to the public has lately been given in Pawtucket, R. I. The details of the case are presented in another column. We have long been familiar with the perils of the trapeze and tight rope, happily rendered less dangerous of late years by public opinion ; but in the case to which we refer the risk was incomparably greater, indeed may be considered quite exceptional, and yet curiously the performance has been allowed to pass uncriticised during several seasons. It consisted in shooting an apple placed on the head of a girl ; but as if to increase the danger to its maximum, the shot was fired by a woman whose back was turned to her, the gun being placed over the shoulder, and sight being taken by aid of a mirror. The following testimony, offered at the inquest, gives a more accurate idea of this extraordinary performance : " I placed the apple on M<sup>lle</sup> Volante's head, with her back to the target. I closed her eyes, placed the mirror firmly on three nails, laid my gun upon my right shoulder, placed my left hand on the breech of the gun and right hand on the trigger. The trigger, when the gun is in this position, comes level with the lobe of the ear. I then placed the muzzle above the object, and, bringing the sight down, fired. I thought the shot was perfect until I heard the word 'Oh!' from the audience and saw the blood." In the verdict rendered the following very sensible advice is offered : " that the jury, in view of the tragic occurrence and the increasing tendency to give and witness exhibitions of like reprehensible character, do earnestly recommend the passage of an ordinance by the town council of this town, prohibiting all exhibitions wherein life is placed in jeopardy by rifle shooting, knife throwing, or any other causes whatever."

Many exhibitions of this class have an appearance of great danger without the reality. In others it is the only element which makes them profitable. Public judgment can therefore be relied upon to but a limited extent to control such abuses. It is due, probably, to a disbelief that such risk as was apparent in the present case would be taken by any sane individual that a just appreciation of its real character has not been sufficiently wide-spread to cause its suppression.

The morals of the stage are just now undergoing a tolerably careful inspection, at least in this city ; but the physical ordeal to which those are subjected who embark in this profession has not provoked discussion, even under the powerful stimulus of such a catastrophe. The Society for the Prevention of Cruelty to Children has already done good work in the right direction, but there are cases beyond the reach of the philanthropic which seem to call for more active legal supervision than is now exercised.



## MEDICAL NOTES.

— We are happy to announce that the State of Rhode Island has organized a Board of Health, but we are surprised to learn that Dr. Snow, whose excellent work on sanitary matters our readers are familiar with, has not been made a member of the board. The efficiency of such a body would be greatly enhanced by securing the services of a valuable expert like Dr. Snow.

— A report made to the Board of Police Commissioners of the City of Cleveland, Ohio, by Frank Wells, M. D., health officer, and entitled *Filth in its Relation to Disease*, may be said to have accomplished its object. It contains an excellent summary of what is known on this subject, and the author seems to have done his work thoroughly. Perhaps, however, one or two of the statements may not be universally accepted. The typographical errors are few, and the book has an attractive appearance.

— The *Berliner k. Wochenschrift*, 1877, quotes the observations of Professor Bacelli, of Rome, to the effect that when a pleuritic patient pronounces the word "trenta-tre" the physician will (1) hear the word clearly if the pleura contain a large quantity of clear serum rich in albumen; (2) will notice that the transmission of the sound is only slightly impeded by an inflammatory effusion which is rich in fibrine; and (3) that the word is no longer audible if there be an abundant exudation of sanguineous or purulent fluid. The ear must be exactly applied to the chest walls.

— In a Goulstonian lecture on *The Localization of Cerebral Disease*, Ferrier cites at considerable length the famous American Crowbar Case, at one time considered a mere "Yankee invention." Ferrier's remarks upon this case are very interesting, and may be found in the *British Medical Journal* for March 30th.

— Dr. Howard, of New York, recently demonstrated at the St. Mary's Hospital of London his method of restoring animation by artificial respiration. It has been approved by eminent British medical men, and the *British Medical Journal* has prepared an illustrated report of it for publication.

— The fees for medical teaching in the London medical schools have been considerably increased because of the greater expense connected with the improved methods, and the extension of subjects in modern medical education.

— Dr. Sourdes, of Nancy, lately obtained at a medico-legal necropsy a heart which exceeded in weight all recorded specimens of the *cor bovinum*. According to the *Revue médicale*, with one exception, in which the weight was two pounds three ounces, the recorded weights have varied between one pound one and one half ounces to one pound eight ounces avoirdupois. The heart in question weighed, on the day of the autopsy, fourteen hundred and eighty grammes (three pounds four ounces and two tenths avoirdupois). After preparation and immersion in alcohol for some days it still weighed twelve hundred and fifty grammes (two pounds twelve ounces avoirdupois).

— The *Lancet* reports the unique case of a child who had swallowed a squeaking air-bladder. The toy slipped through the glottis with the quill mouthpiece upward, so that with every inspiration the bladder became more or less inflated, thus impeding the entrance of air into the lungs. Death by suffocation was the result.

— According to the *Pacific Medical and Surgical Journal*, the faculty of the Medical College of the Pacific has determined to advance the standard of education in the college and place it on a basis similar to that adopted by "the University of Pennsylvania and the few other Eastern schools which have made the forward movement." The above journal is apparently ignorant of the fact that the requirements of the Harvard Medical School are in advance of those of all other medical institutions of the United States.

— The Richmond and Louisville *Medical and Surgical Journal* sensibly says: "The pamphlets on medical subjects, which are received in such large numbers by editors of medical journals, would obtain far more recognition if their authors would adopt the habit of closing them by giving a summary of the views or arguments advanced."

— Dr. Wiss recently asked the interest of the Medical Society of Berlin in the healing qualities of the neglected balsam of Peru. Wiss asserted that in all cuts and lacerations of skin or muscular tissue the application of the balsam is at once followed by relief of pain and rapid repair without suppuration or any signs of inflammation (?). The power of the balsam to prevent suppuration led him to use it in chronic catarrh. He gives four parts balsam to one hundred and twenty parts of yolk of egg. One teaspoonful every two hours with excellent results.

— The professorship of surgery and the office of director of the surgical clinic of Halle have been offered to Dr. Ranke.

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## SURGERY IN BERLIN.

MR. EDITOR,— American medical men coming abroad and intending to devote a portion of the time, at least, to surgery should not fail to visit Berlin and its five principal hospitals, namely, the University Clinic, the Städtisches Krankenhaus, Bethanien, Charité, and the Augusta. But especially the first, where Professor von Langenbeck holds his clinic two hours daily. Those attending the clinic regularly can, if they choose, enter their names so as to be called down once or twice a week to diagnose surgical cases. Once there, one is allowed to remain for the rest of the two hours. As the seats are assigned in the order of application, it is desirable to be in Berlin as early as October 15th. Those who expect to find in Berlin such fine instruments or such skilled assistants and nurses as in our best American hospitals will be disappointed, and the accommodations for the students remind one of many an hour in the Harvard anatomical lecture-room. However, a new building, large and convenient, will be erected this spring for the university clinic. Berlin affords a great number of tumors of every description and in every part of the body. Especially frequent of occurrence are large sarcomas. Whether these are removed earlier in their development in America, or whether the conditions of life abroad are such as to favor their growth, is certainly an open question, but beyond doubt they appear to be relatively more numerous. The same may be said of the various arrests of development, as seen in the most pronounced forms of hare-lip, cleft palate, etc. The num-



ber of rickety children and of adults with caries of the wrist and ankle is very striking.

Professor Langenbeck operates with great grace and dexterity, quite rapidly enough, and with astonishing boldness. He knows his anatomy and surgical pathology most accurately, and has them always at command. His lectures upon surgery are very exhaustive (occupying four winter semesters for their completion), are remarkably clear and concise, and most valuable by reason of his immense experience in military and civil practice, and his careful study of individual cases. His recollection of minute details, both of the cases daily brought into the clinic and of others long past, is wonderful. He is most emphatically a worker. His hospital clinic and lectures take precedence of his private practice, while his course in operative surgery takes place at six A. M. in the summer months. Those who have seen his plastic operations will not soon forget his way of cutting rapidly and without a guide closely-fitting skin flaps for transplanting from the most improbable sources. He has made over two hundred staphylorrhaphies without an anæsthetic, and with the patient in the sitting posture. His amputations and resections are eminently conservative, as he never does the first when the second may possibly answer, and treats expectantly (with success) joint injuries that seem to call for operative interference. The antiseptic treatment, as advocated by Professor Lister, is but partially carried out in the University Clinic in most cases, although carbolic solution (five per cent.), free drainage, antiseptic dressings, with the gauze bandage, are universally employed. It is only in exceptional cases, where healing by first intention is imperatively demanded, that the carbolic spray (three per cent.), or lately thymol solution (one to one thousand), as advised by Billroth, is employed as far less irritating to the skin and free from the danger of carbolic poisoning. The objection to thymol (which, however, appears to answer very well) is its easy evaporation, leaving the dressings dry. Carbolyzed catgut is always employed for ligatures in closed wounds, Professor von Langenbeck having never had but one case of secondary hæmorrhage that could be attributed to this ligature in any way. Torsion is no longer employed; the catgut ligature was adopted as possessing nearly all the advantages while free from the possible dangers of the former.

Volkmann, in Halle, appears to obtain brilliant results in his after-treatment by the extreme "Lister" method, although the hygienic conditions in and about his hospital are said to be very unfavorable. His recent publication of seventy-eight consecutive cases of every variety of compound fracture, of which he did not lose one, aroused considerable interest. His most promising pupil, Dr. Schüde, has the surgical department of the new Berlin City Hospital under his direction. His results are nearly as good as those of his preceptor, who, we believe, has exceeded Lister himself. On the whole, the strict antiseptic treatment seems to be gaining favor in Germany, where it is far more universal than in England, being employed wholly or in part by nearly every surgeon of note in the confederation. The attempts to diminish the cost of the dressings and still retain their utmost efficiency are as yet but partially successful. Bardeleben (in Berlin), it is true, uses jute, piling it upon the wound in such a manner that a fore-arm, for example, so dressed has nearly the size and

shape of an adult's head. In all methods the aim seems to be, first and foremost, free exit for all fluids formed in the wound; secondly, perfect cleanliness of the surrounding skin and bandages; and, finally, to filter, either by the quality or quantity of the dressings, all air that can possibly reach the wound, of course, instruments, sponges, etc., being in proper condition. While the so-called "Lister treatment" is expensive, its practical efficiency overrated, and as at present conducted totally incapable of being carried out in a campaign, still, from the evidence which Professor von Langenbeck's clinic and the Berlin City Hospital alone afford, it is not too much to expect that in a well-ordered hospital the surgeon will in the future operate with confidence where formerly he did so with hesitancy; the patient will be more comfortable, and his stay in "the house" shorter than before this important change in treatment.

W. B. PLATT.

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### "COOL PRECISION."

MR. EDITOR, — In his Monday lecture of April 15th, reported in the *Boston Daily Advertiser* of April 17th, the Rev. Joseph Cook, speaking of certain alterations of the blood, cited the assertions of several observers who claimed to have discovered characteristic corpuscles in the blood of patients suffering from certain infectious diseases. Among others the lecturer mentioned "Nedvetski" (*sic*) as having seen in the blood of patients afflicted with the cholera certain exceedingly minute rod-like bodies. Stress was laid also, in the dogmatic and emphatic manner peculiar to Mr. Cook, upon the statements of "Lostdorfer," (*sic*) confirmed, said the lecturer, by Stricker, and corroborated by Biesiadecki, to the effect that the blood of syphilitic patients contains characteristic corpuscles. After advancing these statements as representing definitively ascertained facts, Mr. Cook added, "You stand hushed before the recital of these searching *recent conclusions of exact investigation.*" . . . .

Consulting Carpenter (Physiology, American edition, 1876, page 269), the "authority" referred to by Mr. Cook for his "recent conclusions of exact investigation," we read this statement, of which we italicize a part omitted by Mr. Cook: "Considerable interest attaches to a statement recently made by Lostorfer and confirmed by Stricker, *though vehemently denied by others*, that the blood of syphilitic patients can be recognized by the presence of small, bright bodies." . . . .

In Wagner's General Pathology (Am. trans., 1876, page 518), we read as follows: "Nedsvetzki describes little bodies possessing movement in all directions (blood-nuclei, hæmococci) as constant ingredients of normal blood. These are probably identical with Zimmermann's 'elementary corpuscles,' Lostorfer's syphilitic corpuscles, etc."

"As little demonstrated, says Wagner in another place (page 108), are the fungi of intermittent fever (Salisbury and others). How easily even the most expert histologists fall into gross errors is shown by the strife just ended over the corpuscle of syphilis (Stricker, Lostorfer)."

Bäumler says that "the importance attached to Lostorfer's researches was attacked by Wedl and Köbner, and it was not long before these corpuscles



were deprived of all claim to a specific character through the fact being proved that like bodies occur in normal blood, and that they probably originate in the white corpuscles, which, in certain stages of syphilis, are often increased." (Ziemssen's Cyclopædia, Am. trans., vol. iii., page 41.)

In his next lecture, April 22d, Mr. Cook returned to the subject of Lostorfer's corpuscles in the "nameless disease," referring his readers this time to "Lionel Beale's freshest work on Microscopy in Medicine." On consulting this writer (whose authority, by the way, is much less great than Mr. Cook would have his hearers believe) it will be seen that he expressly refrains from advancing any opinion upon the nature of the corpuscles, but contents himself with quoting an extract from a paper of Lostorfer's published as long ago as 1871, and therefore anterior to the discussion in which the fallaciousness of the assertions upon which Mr. Cook relies was demonstrated.

In one of his fervent outbursts the "Monday lectureship" exclaims, "Cool precision, gentlemen, not rhetoric! On the edge of the tomb cool precision!" In this instance, however, Mr. Cook's statements, though undeniably *cool*, seem somewhat wanting in *precision*.  
T. B. C.

COMPARATIVE MORTALITY-RATES.

	Estimated Pop- ulation, July 1, 1878.	Deaths during week ending April 20, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean of ten Years, '63-'77.
New York.	1,093,171	563	26.78	24.32	28.71
Philadelphia.	876,118	317	18.82	18.80	21.54
Brooklyn.	549,438	210	19.88	21.51	25.50
Chicago.	460,000	147	16.62	17.83	22.39
Boston.	375,476	160	22.16	20.10	24.34
Providence.	100,000	39	20.28	18.81	19.20
Lowell.	55,798	12	11.18	19.09	22.50
Worcester.	54,937	14	13.26	14.07	22.30
Cambridge.	53,547	10	9.71	18.69	20.83
Fall River.	53,207	20	19.55	21.35	24.96
Lynn.	35,528	20	29.28	20.42	19.67
Springfield.	33,981	9	13.78	16.04	19.77
Salem.	27,140	10	19.16	20.28	21.15

MIDDLESEX SOUTH DISTRICT MEDICAL SOCIETY. — At the annual meeting of the society, held at Watertown, April 17th, the following officers were elected for 1878: President, A. C. Webber. Vice-President, Alfred Hosmer. Secretary, C. E. Vaughan. Treasurer, J. W. Willis. Librarian, C. K. Kimball. Censors, E. H. Stevens, E. W. Emerson, Reuben Willis, A. L. Norris, M. A. Morris. Councilors, Morrill Wyman, W. W. Wellington, R. L. Hodgdon, H. E. Marion, J. L. Hildreth, E. S. Wood, E. R. Cogswell, Horace Chapin, J. G. Dearborn, Sanford Hanscom, G. B. Shute, Otis E. Hunt, R. A. Blood, A. C. Livermore, Peleg Wadsworth, J. C. Dorr, B. F. D. Adams, G. L. Warren, G. J. Townsend. Commissioner on Trials, H. O. Marcy. Councilor for Nominating Committee, Morrill Wyman. Orator, E. S. Wood.  
CHARLES E. VAUGHAN, *Secretary*.

**SUFFOLK DISTRICT MEDICAL SOCIETY.** — At the annual meeting on April 27th the following officers were elected: Dr. C. D. Homans, president; Dr. C. Ellis, vice-president; Dr. A. B. Hall, treasurer; Dr. T. M. Rotch, secretary; Dr. F. C. Shattuck, reporter; Dr. B. J. Jeffries, librarian; Dr. C. W. Swan, commissioner of trials; Dr. G. C. Shattuck, district nominating committee; Drs. G. H. Gay and S. A. Green, committee of supervision; Drs. Calvin Stevens, G. W. Gay, H. I. Bowditch, and J. P. Oliver, committee on social meetings; Drs. G. G. Tarbell, T. Waterman, E. N. Whittier, A. M. Sumner, and T. Dwight, censors; Drs. S. L. Abbot, J. Ayer, H. H. A. Beach, H. J. Bigelow, H. I. Bowditch, B. Brown, S. Cabot, P. M. Crane, D. W. Cheever, H. Curtis, H. Derby, F. W. Draper, C. Ellis, R. H. Fitz, G. H. Gay, J. O. Green, S. A. Green, F. B. Greenough, A. B. Hall, D. H. Hayden, R. M. Hodges, C. D. Homans, J. Homans, W. Ingalls, J. B. S. Jackson, J. F. Jarvis, B. J. Jeffries, G. H. Lyman, F. Minot, F. E. Oliver, J. P. Reynolds, W. L. Richardson, G. C. Shattuck, A. D. Sinclair, D. H. Storer, C. W. Swan, O. F. Wadsworth, C. E. Ware, J. C. Warren, J. C. White, W. G. Wheeler, and H. W. Williams, councilors.

**BOSTON CITY HOSPITAL APPOINTMENTS.** — The following appointments have recently been made at the City Hospital: Drs. R. T. Edes and S. G. Webber, visiting physicians to the department for diseases of the nervous system, — a new service lately established as a part of the general medical service; Dr. A. L. Mason, visiting physician; Dr. G. B. Shattuck, physician to out-patients; Dr. E. Wigglesworth, physician to out-patients with diseases of the skin; Dr. E. G. Cutler, pathologist, in place of Dr. W. P. Bolles, resigned.

**CHANNING HOME.** — Drs. J. B. Ayer and T. M. Rotch have been appointed physicians to the Channing Home.

**MIDDLESEX NORTH DISTRICT MEDICAL SOCIETY.** — The annual meeting of the society was held at their rooms Wednesday afternoon, April 24, 1878. Dr. Benjamin Benoit, Jr., and Dr. H. A. Sibley were admitted as members of the society. Dr. Walter Burnham, of Lowell, related two very interesting cases which recently came under his care. The following were elected as officers for 1878-79: President, George H. Pillsbury, of Lowell. Vice-President, George E. Pinkham, of Lowell. Secretary, George C. Osgood, of Lowell. Treasurer, N. B. Edwards, of North Chelmsford. Curator and Librarian, M. G. Parker, of Lowell. Commissioner of Trials, Nathan Allen, of Lowell. Standing Committee, John C. Irish, of Lowell, Francis C. Plunkett, of Lowell, Leonard Huntress, Jr., of Lowell. Councilors, L. S. Fox, of Lowell, Charles A. Savory, of Lowell, Joel Spalding, of Lowell, C. Dutton, of Tyngsborough, William Bass, of Lowell, Cyrus M. Fisk, of Lowell, Walter H. Leighton, of Lowell. Councilor for Nominating Committee, Charles A. Savory, of Lowell. Censors, Franklin Nickerson, of Lowell, Ezra B. Aldrich, of Lowell, A. W. Buttrick, of Lowell, H. J. Smith, of Lowell, William M. Hoar, of Lowell. Reporter, Franklin Nickerson, of Lowell.

**WINDHAM COUNTY, CONN., MEDICAL SOCIETY.** — The annual meeting of the society was held on Thursday, April 25th, at the Grand Central Hotel, Putnam, commencing at ten o'clock, and the following officers were elected for the ensuing year: President, John Wilter, Putnam. Secretary, J. B. Kent, Putnam. Fellows elected to the State Society at New Haven in May, Drs. Charles J. Fox, Willimantic, T. Morton Hills, Willimantic, Charles Rogers, Central Village, John Wilter, Putnam, J. B. Kent, Putnam. For the Board of Censors, T. M. Hills, S. Hutchins, and Elijah Baldwin. Delegates to the American Medical Association, Drs. Kent, Hills, and Griggs. Dr. Lowell Holbrook was elected editorial reporter on matters of professional interest for the year ensuing. An essay was read by Dr. Elijah Baldwin, followed by a discussion of cases. The exercises closed with a dinner.

**BOSTON MEDICAL ASSOCIATION.** — The annual meeting of the association will be held on Monday, May 6th, at 3.30 P. M., at No. 36 Temple Place.

CHARLES P. PUTNAM, *Secretary*.

**BOSTON SOCIETY FOR MEDICAL OBSERVATION.** — At the regular meeting of this society, to be held on Monday evening next, at eight o'clock, at its rooms, 36 Temple Place, Dr. C. Ellery Stedman will read a paper upon One Hundred and Fifty Cases of Typhoid Fever.



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## LECTURES.

BOSTON CITY HOSPITAL: CLINICAL LECTURE NO. V.

BY DAVID W. CHEEVER, M. D.,

*Professor of Clinical Surgery in Harvard University.*

*Naso-Pharyngeal Polypus removed by Sawing down and Depressing the Nose.* — GENTLEMEN: The rare and interesting case I now bring before you is a boy, fifteen years of age. Symptoms of obstruction of the right nostril and pharynx have been present over a year. Eight months previously a pear-shaped fibroid polypus was removed by Dr. Mason, of Providence, by means of a looped ligature passed through the nose. The tumor soon reappeared. It can now be seen hanging down behind the soft palate. It nearly fills the pharynx, and the right nostril is obstructed. I have decided to attempt its removal by Ollier's operation, in preference to either Langenbeck's operation or my own, which is done by displacing the jaw.

*Operation.* The patient was etherized. Starting at the root of the nose, over the frontal bone, midway between the eyes, an incision was made downward and outward by the side of the nose to the alar cartilage. A similar cut was made on the other side, both incisions reaching the bone. The blade of a small, straight saw was then laid flat on the forehead, and the nasal bones and vomer were sawed through down to the alar cartilages. The nose was now easily upset, and turned down upon the mouth. Next, the vomer was broken and bent by the finger over to the left side, and the inferior turbinated bone was cut away with bone forceps. There was now room enough in the left side of the nares to reach the tumor with the finger. It was found to be attached by a broad root to the bodies of the sphenoid and the right palate bones. It was scraped off the bones by the periosteum scraper. Aided by the finger in the mouth it was delivered whole, and proved to be an oval fibroid, as large as a pullet's egg. The surface from which it grew was touched with nitric acid.

The nose was now replaced, and the nasal bones were wired to the face by two wire sutures; the skin being carefully readjusted with one wire and seven silk sutures. It fitted perfectly. The nose was still farther supported by a horizontal strip of adhesive plaster.

*Subsequent History.* November 3d, day following operation, comfortable. Nose warm. General temperature 99° 4'.

November 4th. No pain. Nose warm.

November 7th. Four external sutures cut. Slight discharge around wires. Drops of perspiration on nose.

November 8th. Remaining skin sutures removed. Wound nearly healed.

November 12th. Deep wires removed. Fair union of nose; can be shaken easily, but adheres in position. Very little discharge.

November 15th. Up and about. Scarcely any discharge. No deformity.

November 20th. No discharge. Excellent result. Nose straight and perfect. Two linear scars on either side. Nares and throat clear and well. Voice normal.

November 26th. Patient was discharged, well.<sup>1</sup>

*Abscess under the Scalp.* — The appearance of this boy is peculiar; his face has an unusual expression; the eyes are puffy and red; the cheeks are œdematous; the forehead has an unnatural contour, is oval, prominent, and also œdematous. There are nowhere any marks of a blow, but over the left eye is an old sore from which pus is exuding. Of this case we have the following history: Four weeks ago, while playing, the boy fell and received a violent blow which caused a wound on the forehead. He has since kept about, sometimes feeling sick, but on the whole, until within a few days, has been free from discomfort. Three days ago he was admitted to the hospital. At that time his condition was not so marked as it is to-day. We found that the blow had cut through the scalp and produced a swelling. The question was as to whether the patient had erysipelas, which so commonly follows blows on the face, or whether there were a fluid under the fascia. There are none of the vesications and bullæ of erysipelas; the evidence is in favor of an abscess beneath the scalp. Pent up under the occipito-frontalis fascia is a certain quantity of pus, and the bone is denuded of the pericranium. When the scalp is cut through, the external table of the skull may become affected, and if it die from the effect of the injury the morbid process may extend through the veins of the diploë to the inner table. This is especially apt to happen in children because of the thinness and vascularity of the skull at that age. If the inner table become diseased we necessarily have meningitis, because the dura mater is the inner periosteum of the cranium, and clings to it closely. If we have meningitis, it alone, by irritation and serous effusion, may cause death. Or, we may have abscess of the brain followed by coma, convulsions,

<sup>1</sup> A previous case operated on by Dr. Cheever in 1867-68 is detailed in the First Medical and Surgical Report, Boston City Hospital, 1870. For description of Ollier's own cases, see his work, *Traité de la Régénération des Os*, par L. Ollier, chirurgien en chef de l'Hôtel Dieu de Lyon. Paris, 1867.



and death. These progressive consequences of a blow on the head in children should make us extremely careful as to treatment and prognosis. We must not forget that dreams, restlessness, and headache indicate an approaching affection of the brain. The important point in the treatment of this case is an early and free incision. If that is not made there will be exfoliation of the outer table of bone. If the inflammation go no deeper the patient will probably escape a worse trouble. I have seen a case of exfoliation of the outer table of nearly the whole parietal bone, followed by a granulating surface, the inner table not being affected.

I introduce my probe, and it goes down to rough bone. By curving the instrument I can push it under the fascia, upward toward the hair and downward toward the nose, showing that the swelling includes one third of the forehead. The great essential in the present treatment of the case is to let out the confined pus by free incisions, and so give the bone a chance to exfoliate and repair.

Then, a patient of the age of this boy should be well nourished, yet not too generously. The bowels should be kept freely open; this is an important point. To quiet the brain we should not give opium, which is a medicine ill adapted to head injuries, but rather the bromides, valerian, etc. The sore will be treated with the soda and laudanum wash. Poultices would be improper.

I have now made a crucial incision, and shall cut as far as the limit of denudation of the bone. The abscess seems to extend rather more toward the hair, from which direction you see the pus flowing in a mass. There is also pus toward the orbit, and plenty of it. I find the bone distinctly roughened, as if worm-eaten, and the scalp is thickened. In these cases we should not mind the shape of our incision; the necessity is to let out *all* the pus.

The scalp is vascular because inflamed, and the pus exudes from various deposits. Over the bone, as you will observe, there is no periosteum. If the patient survive we shall eventually have exfoliation of the outer plate of the frontal bone.

This is as practical and important a case as we could see. Especially so because we meet such in every-day practice. It is one of the cases which may end in meningitis, abscess, and death, or which may run into epilepsy and other kindred lesions. [This child died of meningitis the following week.]

*Anal Fissures.* — Our next patient has an affection of the rectum. He is already under the influence of ether, but is not breathing freely. When the head of an etherized patient is allowed to fall too low, you will invariably find that trouble begins. The tongue naturally gravitates backward because the patient has no muscular control over it. Whenever this happens stertorous breathing will at once be heard. It

will then be necessary simply to raise the patient's head. The tongue comes forward, and respiration again becomes easy. There is another condition in which an etherized patient becomes tetanic. He has opisthotonos, draws himself forcibly and convulsively backward, and his movements are spasmodic. In such a case the need is air, and the ether should be withdrawn. If he throw himself back with great force, turn him on his side, and the condition will pass off. Our patient is nauseated. After he has vomited he will go to sleep easily. He is a laboring man, and says he cannot give us more than one week in which to treat him. At stool he suffers great pain. Yesterday I hastily examined him, but am not yet fully acquainted with his trouble. What I then saw I see to-day, namely, three or four small fissures, which undoubtedly are the entire cause of his suffering. One of them is healed, and another nearly so; a third is raw and ulcerated. When the anus is stretched in the act of defæcation the fissures reopen and give intense pain, just as do cracks in the corners of the mouth during a meal.

The best treatment for this condition is to stretch the rectum violently in order to paralyze the sphincter muscle, and afterward slightly incise the mucous membrane over the fissures. This combination of stretching and cutting is generally successful in promoting a cure.

Introducing my finger I do not feel anything abnormal within the rectum. It is probable that the trouble is confined to the margin. The method of treatment is to work the two thumbs into the bowel, grasp the tuberosities of the ischia with the fingers, and then rupture the sphincter muscle, as I have now done. The cracks have thus been widened. I now pass an Allingham speculum, and examine higher up. I find nothing but this fissured condition, which is very marked, as I will show you in a moment by thoroughly stretching the rectum. The principal fissure is situated on the posterior wall. I now take the knife and lightly score the membrane, just cutting down to the fissure itself. This I do in several directions. We shall keep the bowels open for a week. Aside from this, merely ordinary care is all that will be necessary.

*Housemaid's Knee.* — This woman has a swelling outside and in front of the knee-joint. The trouble has been going on for months. There is no lameness, but the locality is sore, and the effects have become such that operative treatment is needed. The knee-joint, on either side, as you will notice, is natural in shape and free from all trouble. The lesion is outside the joint and over the patella. There are two swellings, one above the other. The upper is distinct and hard. The lower is discolored, open, and suppurating. We have here a swelled bursa, constituting what is known as "housemaid's knee," but we seldom see so bad a case as this. The bursa first becomes irritated; then its walls thicken, an abscess forms, the part ruptures, suppurates, and



sloughs. This is the progressive history of the affection. When seen early the bursa may be tapped, laid open with the knife, iodine may be injected, or it may be treated by the seton. The latter course is an imitation of what nature is trying to do here, namely, heal by suppuration and granulation, and should be the last of all the methods of cure to be attempted, the trouble here being that the tough wall of the sac is left behind. Our treatment, then, is to try to dissect out this tough membrane, and so leave a clean cavity. The probe, as you see, passes in various directions. It is quite possible that the upper swelling is an independent cyst, which is going through the same stages as the lower. In fact, I find no connection between the two, and will first operate on the upper cyst. The best way is to incise straight through, — thus. I find it a thick, hard mass, with but a small cavity. It seems to reach the knee-pan and tendon, and in a great measure has undergone a process of solidification. It is, as I supposed, a separate cyst. In my dissection I have worked down to the tendon, and can see the patella and shiny fascia over it. I have now removed the upper cyst, and you may observe that the cavity is left perfectly clean. In the same manner we must dissect out the lower cyst, which is so rotten and suppurating as to be not nearly so clean as the other. I am now down on healthy tendon, and the operation is completed.

For after-treatment the point is to manage the wound so as to prevent the extension of inflammation into the joint. For the present we simply strap and dress with water. Sutures would do no good here, for the wound would not heal by first intention. We shall also apply a ham-splint, keep the patient in bed, and dress with the “soda and opium wash,” which is composed as follows: laudanum one part, liquor sodæ chlorinatæ two parts, water ten parts.

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## TWO CASES OF URÆMIC CONVULSIONS.

BY F. GORDON MORRILL, M. D.

THE following brief notes are published as affording examples of recovery from uræmic symptoms of a violent and persistent type.

CASE I. *Chronic Bright's Disease.* — A woman, aged forty-two, lost consciousness while walking in the street, and was carried to the Carney Hospital December 21, 1873. She had convulsions of left side soon after admission, which lasted nearly half an hour. She then remained in an unconscious state up to the time of my visit, some two hours later, when her condition was as follows: general appearance anæmic; œdema of feet and ankles; pupils widely dilated; pulse 140; respiration rapid; could not be roused.

A catheter was passed, but the bladder was found to be empty. Her

friends stated that she had had an attack similar to the present one some ten months before, and that the œdema had existed only a few weeks previous to the time of her admission. Fifteen grains of calomel were placed upon her tongue, and (as she swallowed liquids when introduced into the mouth) an ounce of acetate of potash was ordered in solution, the patient to be given as much as possible of this amount during the next twenty-four hours.

December 22d. Has been freely purged, and has passed urine, the quantity and quality of which could not be estimated, as it was voided involuntarily upon the bedding. Cold was directed to be applied to her head, and milk and beef tea in such quantities as could be given.

December 23d. Still unconscious, and apparently sinking. Passed large quantities of albuminous urine. P. M. Suddenly started up and became so violent as to require restraint to prevent her biting the attendants.

December 25th. Rational at times. Takes plenty of liquid nourishment.

December 30th. Entirely rational, and strong enough to ride to her home.

CASE II. *Acute Desquamative Nephritis*. — September 5, 1874, a girl, aged seven, presented the usual symptoms of scarlatina, attended with a profuse rash, high temperature, and very rapid pulse. Suppurative inflammation of the internal ear on both sides followed the fading of the eruption, and on the twentieth day after the commencement of the disease albuminuria was present, with slight œdema of the feet and ankles. The latter symptom increased slowly, notwithstanding a copious diuresis produced by the exhibition of infusion of digitalis. (I may remark here that the line between vascular diuretics and those which act upon the kidney was not as strictly defined at the time this case occurred as at present, and that the digitalis was prescribed in accordance with the views of Dickinson.)

October 7th. Sudden loss of consciousness and twitching of the muscles on the left side of face occurred. These symptoms were relieved by the application of cold to the head and the administration of a little brandy. The bowels had moved freely on the previous day, and no diminution of the amount of urine passed had been observed. A wet pack and a drastic purge were ordered; the latter had to be repeated twice before the stomach retained it. In the afternoon the child had violent convulsions, controlled by ether, but recurring whenever its effects passed away. Pupils dilated. Several watery discharges. A tenth of a grain of morphine was directed to be placed upon the tongue every four hours.

This condition of things lasted until the afternoon of the 11th. During the whole of this period (four days) the child was kept under the



influence of the anæsthetic, — any attempt to withdraw it being almost immediately followed by a spasm. The pack and morphine were continued (the pupils remaining dilated), and advantage was taken of the time between the return of semi-consciousness and the recurrence of the convulsions to administer a teaspoonful or two of champagne or of lime-water and milk. Twice during this period no pulsation of the radials could be detected, and respiration apparently ceased. On the night of the 8th, those around thought the child dead, and during a space of four hours nothing was done for her, when a slight quiver of the lips was noticed by one of the attendants, who forced a teaspoonful of brandy between her teeth, which caused the child to revive, only to go into a most violent convulsion. On the afternoon of the 11th, the intervals between the withdrawal of ether and the recurrence of spasms became longer, and towards night the patient sank into a quiet sleep which lasted until noon of the next day, when she awoke and recognized those about her. From this time on she steadily improved. Albumen was found in the urine at every examination until fourteen months had elapsed from the commencement of her illness. After this none was ever detected. The girl is in excellent health at the present time.

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## RECENT PROGRESS IN PHYSIOLOGY.

BY H. P. BOWDITCH, M. D.

*Air in the Circulatory System.* — The various disturbances which may be produced by the mixture of free air or gas with the circulating blood have been carefully studied by Couty<sup>1</sup> in several series of experiments on animals which were usually slightly curarized. His conclusions are that bubbles of air mixed with the arterial blood are an obstacle to the flow through the capillaries which may be estimated at several centimeters of mercury, the obstacle increasing with the amount of air. The rapidity with which blood mixed with air circulates through any organ increases, as in the case of normal blood, with a rise of the general blood tension and with a diminution of local vasoconstrictor activity. The obstacle varies very greatly in different organs. Thus "foamy" blood traverses the capillaries of the limbs and brain much more readily than those of the abdominal viscera, a result the opposite from that which might be expected from the relative size of the capillaries in these organs.

The immediate cause of the dangerous and even fatal consequences of mixing air with the blood seems to be a stoppage of the circulation.

<sup>1</sup> Étude expérimentale sur l'Entrée de l'Air dans les Veines et les Gaz intra-vasculaires. Paris, 1875. Recherches expérimentales sur les Gaz libres intra-artériels, Archives de Physiologie, 1877, page 429.

This stoppage may, according to the author, be brought about in three different ways.

I. By the accumulation of air in the right side of the heart. This accumulation may occur whether the air is introduced by the veins or the arteries, and its effect is in all cases to distend the right side of the heart to two or three times its normal volume, producing mitral insufficiency. The elasticity of the air, which causes it to be compressed instead of driven out by the systole of the right ventricle, and its lightness, which keeps it always in the upper part of the cavities, seem to afford a mechanical explanation of this distention. The distended ventricle contracts less and less completely, and the blood, having a free passage backward through the mitral valve, gradually ceases to circulate.

II. By the direct obstacle to the circulation presented by the air in the capillaries. The stoppage of the circulation thus produced is, of course, more or less localized, and the gravity of the result will depend upon the importance of the organ in which the stoppage occurs. If the lungs are the organs affected, as is commonly the case when air enters the veins, the phenomena of asphyxia will be produced. The paralysis which is so marked a symptom in the so-called "caisson disease" seems to be an affection of this sort, the air set free in the blood by too sudden a "decompression" obstructing the circulation in the nerve centres.<sup>1</sup>

III. By vascular paralysis resulting from prolonged anæmia of the nerve centres. This subject has been studied by the author<sup>2</sup> in a separate series of experiments in which local anæmia was produced by the injection of lycopodium into the blood-vessels supplying the various nerve centres.

The danger resulting from the entrance of air into the veins has recently been made the subject of a clinical lecture by Fischer,<sup>3</sup> to which valuable exposition the reader is referred for the bibliography of the subject. In experiments on rabbits the author found that a free opening into the internal jugular vein in the lower part of the neck always caused sudden death preceded by an audible sound of the entrance of air and by dyspnœa. The same result generally followed the opening of the axillary vein, but not that of the external jugular or femoral veins. The effect was the same whether the animals were anæmic or full-blooded, starving or well fed. Autopsies invariably showed the right side of the heart to be distended and filled with foamy blood, which could also be traced into the finest subdivisions of the pulmonary artery. If the air was allowed to enter slowly but constantly, the same fatal result followed, except in those cases in which only small amounts

<sup>1</sup> See Bert. *Pop. Science Monthly*, xi. 316.

<sup>2</sup> *Archives de Physiologie*, 1876, page 665.

<sup>3</sup> Volkmann's *Sammlung klinischer Vorträge*, No. 113.



were employed, for example, ten to twenty cubic centimeters in half an hour, an observation quite in accordance with our knowledge of the feeble power of the blood to absorb nitrogen. The author discusses the various views which have been held in regard to the cause of death following penetration of air into the blood-vessels, and, in view of the fact that the heart often continues to beat after the occurrence of the most alarming symptoms, is inclined to adopt the opinion of Magendie and Poiseuille, that asphyxia is, in the majority of cases, the immediate cause of death. In regard to the manner in which asphyxia is brought about, the author adopts the theory of Panum, that the air acts like an embolus in the pulmonary artery and interrupts the normal supply of oxygenated blood to the left ventricle.

*Movements of the Vocal Cords.* — The recent application by Oertel<sup>1</sup> of the so-called stroboscopic method of observing rapid vibrations to the study of the movements of the vocal cords seems likely to lead to important additions to our knowledge of the physiology of vocalization. This method, which was first employed by Plateau in 1836, consists in observing a body having a rapid but unknown rate of vibration at intervals which can be regulated to correspond to the unknown rate. This object can be accomplished either by illuminating the vibrating body by a rapid series of electrical sparks, or by looking at it through holes in the edge of a revolving disc, or through a perforated disc attached to a tuning-fork. If the rate of the observations coincides with that of the vibrating body, the latter, being observed always in the same phase of its vibration, presents the appearance, owing to the persistence of the impression on the retina, of a body perfectly at rest. If the rate of the observations is a little slower than that of the vibrating body, the latter, being at each observation in a somewhat more advanced phase of its movement, will appear to execute its vibration at a rate corresponding to the difference between the rates of observation and vibration. Thus a body vibrating two hundred times in a second, seen through a stroboscopic apparatus giving two hundred and one observations in a second, will appear to vibrate once in a second. Thus by knowing the rate of the observations and noting the rate of the apparent stroboscopic movement, the rate of the vibrating body may be determined. It is also possible by this method to study accurately the appearance presented by a vibrating body in every phase of its movement.<sup>2</sup>

The application of this method to the study of the vocal cords requires the use of the most powerful sources of illumination; for example, sunlight, electrical light, or lime light. Oertel's observations, which have as yet been given only in preliminary communications, show that in ordinary chest tones the vocal cords vibrate throughout their whole

<sup>1</sup> Centralblatt für die medicinischen Wissenschaften, 1878, pp. 81 and 99.

<sup>2</sup> See Mach. optisch-akustische Versuche, Prag, 1873.

length and breadth in such a way that the excursions of the various points of the cord increase with their distance from the outer border. In falsetto tones, on the other hand, though the cords vibrate in their whole length and breadth, the vibrating surface presents a curved nodal line, about one third of the distance from the free edge to the attached border, the parts of the cord on opposite sides of the nodal line being of course always in opposite phases of vibration. In very high falsetto tones a second nodal line may be observed, indicating a still further subdivision of the vibrating surface.

Oertel suggests the possibility that this method of research will throw light upon various obscure laryngeal troubles, particularly those affecting singers, dependent probably upon anomalies of vibration and differences of tension of the vocal cords.

*The Telephone as an Instrument of Research.* — Though so short a time has elapsed since the invention of the telephone, it has already found numerous applications as an instrument of physical and physiological research. Goltz<sup>1</sup> has shown that the electrical currents produced in the conducting wires by the different vocal sounds may be used to irritate the motor nerves of the frog, and that contractions of different intensity correspond to the different vowel sounds, *a* and *o* producing the most powerful, and *i* (as in *mien*) the weakest stimulation. The result is the same whether the conducting wires of the telephone are connected directly with the nerve or with the primary coil of an induction apparatus the secondary currents of which furnish the stimulus.

Du Bois-Reymond<sup>2</sup> has made similar observations, and has also given reasons for regarding the telephonic transmission of sounds as an additional argument in favor of the theory of Helmholtz, that the timbre or “clang-tint” of a sound is not altered by a change in the relative position of the component vibrations, causing them to combine in different phases. For he has shown by a mathematical discussion of the conditions under which the transmission occurs that a change of this sort must take place, and yet the sounds are transmitted unaltered in timbre from one telephone to the other.

Hermann<sup>3</sup> has investigated the subject of telephonic transmission by induction, and has found not only that sounds may be transmitted unaltered when one telephone is connected with the primary and the other with the secondary coil of an induction apparatus (or still better with the two parts of a galvanometer coil), but that the result is not interfered with when several other coils are introduced between the hearing

<sup>1</sup> Pflüger's Archiv, xvi. 189.

<sup>2</sup> Verhandlungen der Berliner physiologischen Gesellschaft, November 30, 1877. Archiv für Physiologie, 1877, page 573.

<sup>3</sup> Pflüger's Archiv, xvi. 314.



and the speaking telephone, so that the sounds are produced in the latter by induced currents of the third, fourth, or even fifth order. In view of this fact, Hermann maintains that the law of induction, assumed by Du Bois-Reymond in his above-mentioned calculation, cannot, for some reason or other, be applied to oscillatory changes of intensity, such as are produced by the telephone.

Hermann<sup>1</sup> has also employed the telephone as a means of studying the feeble electrical currents of muscles, and finds that when the longitudinal and transverse sections of a muscle are connected by unpolarizable electrodes with a telephone, and a mechanical interrupter included in the circuit, a noise is heard corresponding to the interruption. That the muscle current is really the cause of the sound is proved by the fact that silence ensues when the electrodes are withdrawn from the muscle and placed in contact with each other. Although the constant current of the muscle at rest is thus readily demonstrated, all attempts to render audible the rapid variations of this current (the "action current" of Hermann) which accompany a tetanic muscular contraction have as yet yielded only negative results. This is the more surprising from the fact that when tested with an ordinary induction apparatus with a vibrating armature and a sliding secondary coil the telephone responds with an audible sound to induced currents of so feeble intensity that they will not stimulate the most sensitive nerve-muscle preparation; yet when the nerve of this preparation is applied to the surface of a tetanically contracting muscle the well-known phenomena of secondary tetanus ensue. It seems, therefore, that the telephone is more sensitive than the frog's nerve to the secondary currents of an induction apparatus, while for the electrical currents which accompany muscular activity the reverse is the case.

To the currents produced by the thermopile Hermann found the telephone very sensitive. If a telephone, a Heidenhain's thermopile, and a mechanical interrupter are included in an electrical circuit (the latter instrument being placed in an adjoining room on account of the noise produced), it is only necessary to bring a finger into the neighborhood of one of the surfaces of the pile to hear a distinct noise. A similar use of the telephone in connection with a thermopile has also been described by Forbes.<sup>2</sup>

Finally, it should be mentioned that the telephone affords a valuable method of testing the vibrating interrupters for electrical currents so commonly used in physiological researches. It is usually assumed that the number of interruptions corresponds to the number of vibrations as determined by the tone of the vibrating spring. The accuracy of this assumption can be readily tested by observing whether a telephone included in the circuit gives the same tone as the interrupter.

<sup>1</sup> Pflüger's Archiv, xiv., page 504.

<sup>2</sup> Nature, February 28, 1878.

It is not yet possible to speak with certainty of the value to the physiologist of that instrument which is so closely allied to the telephone, namely, the *phonograph*, but it is evident that it cannot fail to render important service in the study of vocalization and articulation. For indications of the problems likely to be solved by its aid the reader is referred to the communications of Jenkin and Ewing.<sup>1</sup>

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## PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

O. W. DOE, M. D., SECRETARY.

JANUARY 7, 1878. *Amyloid Degeneration*. — DR. WEBBER reported the following cases: —

CASE I. Patient entered the City Hospital in April, 1877, on account of lung disease, which proved to be phthisis. She had then merely sonorous râles at the end of inspiration, over the left front, and a little irregularity of inspiration under the left clavicle. She was under Dr. Edes's care at that time, and went out in less than a month relieved. She entered again November 1st under Dr. Webber's care, with œdema of the feet, which had been present four or five weeks, and some puffiness of the eyelids. The urine was scanty; there was no headache and no vomiting. The heart sounds were normal, with a strong impulse at the apex, and the second sound accentuated. There were moist râles throughout the upper half of the left chest in front, with dullness on percussion. At the upper part of the left back respiratory sounds were scarcely audible; at the middle third expiratory murmur was as long as inspiratory, and both were harsh. Urine was acid, contained very much albumen; casts were abundant, being hyaline, with highly refracting granules, granular, and waxy; they were both narrow and wide. About eighteen ounces of urine were passed in twenty-four hours. Steam baths, digitalis, and squills were ordered; the urine increased gradually, and on the 17th it amounted to sixty-seven ounces. The digitalis and squills were omitted, and later the steam baths; the urine continued abundant until after December 1st. Nausea and vomiting with diarrhœa appeared about the middle of December, and she died on the 25th.

The kidneys and spleen were amyloid. Under the microscope the tubules were found to be filled with granular and waxy casts. There were very few healthy tubules to be seen, and many of the Malpighian bodies had undergone amyloid degeneration.

CASE II. The patient entered April 16th with chronic Bright's disease. She had an attack of purulent otitis while in the hospital; was discharged at her own request. After she went out she did not feel well, and three weeks before readmission she took cold, had great swelling of feet, urine scanty and red in color. Five months before readmission there was numbness in the left side face, arm, and leg, which disappeared from the face, but persisted in the arm, with coldness extending to the shoulder, and prickly sensations in the tips of the fingers. At times there was twitching of the left arm sufficient to keep

<sup>1</sup> Nature, March 14, 1878, and March 28, 1878.



her awake or prevent dressing. While in the hospital she had diarrhœa, which was quite persistent; a bed sore; scanty urine, passing only from three to nine ounces in twenty-four hours, the specific gravity 1007; much albumen; when examined no casts were found, but there was a little blood. There was nothing in the symptoms to call attention to the pelvic organs, or to arouse suspicion of the condition in which these were found; the same may be said of the necrosis of the skull.

*Autopsy.* In the middle of the frontal bone a ragged, eroded spot about one inch in diameter was found, the irregular cavities in the bone being filled with pus; skin not discolored over this; beneath, the dura mater was somewhat reddened, and there were a few drops of pus on its surface as well as on the pia mater. Longitudinal sinus was obliterated for about an inch or an inch and a half. No meningitis over temporal lobe; no phlebitis or thrombosis of lateral sinus on right side. There were no adhesions of the pia mater at vertex or over the frontal region; brain substance normal.

Liver was contracted, furrowed, wrinkled, on section presenting whitish streaks in the vicinity of the depression; lobules of a yellowish-white color, surrounded by red, not amyloid. Kidneys were rather small; on section, lobules indistinctly marked, coming rather near the surface; cortical substance mottled, but mostly of a dirty white color; some amyloid degeneration. Spleen was not amyloid.

Intestines were matted together near the pelvis, and there was a collection of pus on the right side behind the uterus. There was no ulceration. Bladder was thickened and red, and ulcerated at one point where there was a perforation. In the uterus were found four or more fibroids at the upper part, two as large as walnuts,—one in the posterior wall, the other subperitoneal and pediculated.

Dr. Webber showed the kidneys from the two cases given above, and remarked that they were interesting as having occurred under different conditions, the one having necrosis of bone and purulent inflammation, the other phthisis.

*Cerebral Hæmorrhage.*—Dr. Webber also reported the following case of cerebral hæmorrhage, simulating in some of its features a tumor, with pachymeningitis chronica:—

The patient was a single woman, twenty-four years of age. Was always in poor health. At eight years of age she had “dropsy in the head,” with gathering in left ear; discharge continued till twenty years of age. Many scars on forehead caused by falls during the attack of hydrocephalus. Scarlet fever at fifteen. Seven years ago her throat troubled her, and a “yellow cancer” was removed from the front of the neck. At every sickness had alopecia and also severe headache, frontal, right temporal, right parietal, and at the vertex; for last two years a heavy feeling at top of head. Often had cramps in the legs and pain at small of back; also pain in left side.

Last July had severe headache, cramps, and numbness in hands, and once fell to the floor. In August suddenly had numbness with pricking sensations in left finger-nails, proceeding up left arm to head; she could not speak; tongue was numb on left side, as were also the left jaw and cheek. After this the right eye was very red. In October the right eye began to protrude.

In the latter part of November the left arm and hand became paralyzed, and later the left leg. Severe headache all the time. Had a spasm lasting about an hour; was very sick all night; next night worse, with choking spells. Four days before entrance she had a spasm in her throat which threw her into a fit. December 7th there was choking followed by pricking and numbness in both hands and arms and in left leg; hands cramped. First phalanges partially flexed, second and third extended, fingers straight. Spasm ceased in ten or twelve minutes, and she spoke of a ball in her throat. On the 17th the motion had partially returned to the left arm, and this power steadily increased until January 2d when she had considerable use of the left side. She had frequent and severe headache, requiring the use of morphia. During the night of January 2d she had a fit; was quiet, looking upwards; respiration was labored; she cried, "Oh, my head!" respiration had ceased when the house officers reached the bedside.

She had an eruption on both arms; a red base with white pearly scales, the papules arranged in a ring; this slowly extended, leaving a superficial cicatrix; it was most extensive on the right arm. There was itching and formation on the left side, and somewhat on the right.

In consequence of the persistent headache, the repeated attacks of numbness and paralysis, the latter gradually appearing and disappearing, the spasms, the affection of the conjunctiva of the right eye, and the protrusion of the eyeball, Dr. Webber made the diagnosis of tumor cerebri. In consequence of the sore throat, the alopecia, and the skin eruption she was put upon antisyphilitic treatment.

Instead of a tumor there was found multiple hæmorrhage; the large clot, about an inch in diameter, evidently old, may well have caused the symptoms peculiar to a tumor.

*Autopsy.* Lungs, no adhesions; healthy, except a small, consolidated nodule at the apex, and a few calcareous concretions in substance. Heart, a white patch in front on left ventricle at apex; no hard nodules on valves. Liver very much congested, dark, friable. Spleen normal. Kidneys normal. Uterus, lateral flexion to the right; contained a small amount of bloody mucus. Skin very tender, being easily torn through by the stitches.

Head, dura mater thickened in layers, which separated easily in front; no hæmorrhages between the layers; on one side two large osseous plates, on the other one plate. Convolutions on right side over vertex flattened; pia mater tinted yellow, seemingly from the serum beneath. At one point, just above the fissure of Sylvius, was a dark-colored spot about one line in diameter, with a circle outside about four lines wide. A cut accidentally made below the fissure of Sylvius gave exit to considerable serum. Along the fissure of Sylvius, external to the membrane, was a small clot about three fourths of an inch wide; this curled around beneath the anterior lobe; its communication with a large clot in the brain was not found. Considerable blood also in the posterior fossa, mostly fluid.

Pia mater on the left opaque and thickened, convolutions not flattened. On removing brain, in the right anterior fossa a small sac-like membrane was found attached to the dura mater.



On slicing the right cerebral lobe the cerebral substance was found to be deeply tinted yellow; in the anterior lobe just below the central fissure was an old clot, about one inch in diameter. This was confined to the white substance and had a somewhat firm limiting membrane. Just posterior to this was a small clot about half an inch in diameter, and just below and posterior to this another small clot about the same size, but more elongated, both these having a limiting membrane, and not communicating with each other. All were confined to the white substance, just touching the gray. Behind and below these was a fourth clot, larger than the others, which had broken down the posterior extremity of the intraventricular nucleus of the corpus-striatum, had torn up the brain substance, following the descending cornu of ventricle, but had not opened into the lateral ventricle. The brain substance about this was suffused; no limiting membrane. The left side of brain, cerebellum, pons, and medulla healthy. No miliary aneurisms found; blood-vessels did not show disease of eye.

*Sarcoma of the Pancreas, Liver, and Gall-Bladder.* — DR. INGALLS reported the following case of sarcoma of the pancreas, liver, and gall-bladder.

On the 9th of September, 1877, Mrs. ——— consulted him on account of a prolapse of the womb, and the history of the case in her own words was as follows: "I am fifty-five years old, have had four children; the youngest is twenty-three years old. I had good health up to twelve years ago, when I found that my womb came down lower than it ever did before. I have always been an active, hard-working, housekeeping woman. Have never had back-ache; have been for the most part constipated during these twelve years. Continued to work as usual, and without very much inconvenience up to three years ago, when I consulted Dr. S., who examined me and told me to wear a sponge, so as to press my womb up, and it answered pretty well, but it troubled me very much, and after a while I neglected it. I have been for the last five years about as I am now. I have much trouble while passing water. I have to go down on my hands and knees to succeed."

Upon examination, there was found to be a complete prolapse of the womb to such a degree that the anterior wall of the vagina, while the patient was standing, was quite outside the vulva; the mucous membrane, altered as to its surface, being skin-like and having fine hairs upon it, and also having for its posterior surface, connective tissue being apparently wanting, the posterior wall of the urinary bladder, the mouth of the womb presenting on the back side of this pouch-like protrusion. The posterior wall also of the vagina had drawn down the rectum to a degree and condition similar to that of the front.

Treatment of the prolapse had not been of much avail up to about the first of November, when symptoms pointing to disease of other organs were manifested, and as they seemed not to be dependent upon nor connected with the prolapsus, consideration for it was held in abeyance. About this time the patient began to suffer pain in the hepatic region, and on the 7th of November, while at stool, which was brought about by artificial means, she had some kind of a paroxysm, which was not well described, one feature of which, however, was that of unmistakable pain in the abdomen. As soon as an examination could be made it was found that the anterior edge of the liver could be

felt at, and for a finger's breadth below, the border of the ribs, and rounded, seemingly. During the remainder of the month pain in the region of the liver was constant, with occasional fever lasting a few hours, the bowels never acting except under the influence of laxatives; the pulse generally about 70, compressible and moderately full; temperature never over 100° F., oftentimes 98° and less; skin fair, intellect clear; nourishment for the most part tasted good; undue thirst occasionally; urine passed every twelve hours. The treatment was by opiates, laxatives, and local applications.

On the 6th of December she had an exceptionally good day, so that she was up and about and putting her room to rights. The course and treatment were pretty much the same as above related, except that the liver seemed to extend lower daily, little by little, so that by the 19th it was three fingers' breadth below the edge of the ribs. From the 6th to the 19th there was gradual failure of strength, and on the 11th, 12th, 13th, 14th, there was profuse sweating.

Early on the morning of the 20th she had a severe paroxysm of fainting or sinking, or a chill, or a mixture of all three; the description of it was not clear. Two or three hours after this Dr. Ingalls found her with the marked symptoms of peritonitis: the knees drawn up, decubitus dorsal, countenance expressive of pain and anxiety, pulse 120 and small, abdomen full, round, tense, and tympanitic; the thirst could not be assuaged. On the 21st a round and rather hard and immovable mass or tumor was detected, which seemed to be projected from the inferior surface, or from the anterior edge of the liver, and this increased in size and extent daily, so that by the 27th it reached nearly as low as the umbilicus, and filled the right hypochondrium. Pain persisted over the normal region of the liver. From the 21st to January 1, 1878, on which day she died, there was constant regurgitation of whatever was swallowed, and during these days there was but one discharge of feces, which was brought about by a copious injection, previous injections coming away hardly discolored.

*Autopsy.* At the autopsy, which was performed by Dr. E. G. Cutler, the following condition of the organs was found: The heart was not abnormal. There were one or two small atheromatous patches in the ascending and transverse portions of the aorta. The lungs were both adherent to the costal pleura at the apices over a small area. In the apex of each there were one or two old caseous nodules of small size (one in the right lung contained a small deposit of lime salts), surrounded by condensed lung and connective tissue. The right lung extended down only to a level with the third rib. The posterior portions of each lung were much congested and œdematous.

On opening the abdomen, a large, irregularly oval, whitish-gray new growth was seen beneath the peritonæum, in the lower epigastric and right hypochondriac regions and the upper part of the right lumbar and umbilical regions. The mass had invaded the right lobe of the liver, had infiltrated the peritonæum, and produced adhesions to the abdominal wall over it, covering a space as large as the palm of the hand. The gall-bladder was completely buried in the mass, the head of the pancreas involved, and also the angle of junction of the ascending and transverse portions of the colon. The chief part of the mass



was deep, and seemed to have lifted the liver, colon, pyloric end of stomach and duodenum towards the surface by an increase in size. On making a section into it, it was found to be very soft and friable, and to contain a clot of blood in the centre nearly as large as the two fists; in many places the growth was very yellow-colored and fatty. The pyloric end of the stomach and the duodenum were pressed upon and flattened out by the diseased mass, so that the finger could not readily be passed through them; they were not diseased; the head of the pancreas was, however, infiltrated, and the colon in the place mentioned above was also infiltrated from behind through the muscular layer to the mucous coat, and the canal was diminished in diameter.

The hepatic and cystic ducts of the liver, both pervious, were transformed into tubes of the new growth; the gall-bladder was also diseased, and contained a large gall-stone. Microscopically the tissue was composed of large, round, spindle and stellate cells, not imbedded in a stroma. The spindle cells predominated. There were small secondary deposits in the mesentery and omentum. The peritonæum was not inflamed. The spleen was atrophied, but of good consistence and color. The kidneys were small, and the epithelium of the cortical portion cloudy. The uterus was about three inches long, had very thin walls just above the internal os, and was about as consistent as a wet rag. Brain and spinal cord not examined.

*Cancer of Liver, Kidney, and Spine.* — DR. STEVENS reported the following case. On September 16, 1877, he was consulted by Mrs. A., who gave the following history: She was an American, aged sixty-five, married, and had never borne children. Ten years before had pneumonia, and six years later pleurisy; otherwise always healthy. Father lived to be eighty-four years of age, mother ninety-one. Had lost two sisters, one dying at fifty-four from cancer of the breast, the other at forty-nine from "cancer in the bowels." In the case of every member of the family (eight in number) the hair has turned perfectly white before the age of thirty-five, and at about the same age they have developed a trembling of the hands and head. This was very marked in the mother.

August 13, 1877, when attempting to get out of bed in the morning, she felt a sudden pain in the lower part of the back, which was severe and prevented her from standing. The pain passed off during the forenoon, leaving behind a lameness and soreness, most noticed in sitting down and getting up from a chair. This did not change much for a week, during which time she was about and able to attend to household cares. One week after the first attack she had a second, which was more severe, obliging her to keep in bed for two days, after which she was able to be up and about the house, suffering but little pain. Pain was increased in attempting to get up from a sitting posture, but when in the erect position she could walk with but little trouble.

For three weeks her condition was about the same. She went out-of-doors almost every day, some days taking quite long walks. Was most comfortable when lying on her back with her knees drawn up, and could not lie on either side without increasing the pain. Appetite was not quite so good, and strength was somewhat impaired. Bowels were constipated; there was no trouble in passing urine, and no pain except in the back.

When first seen the following condition was noted : very thin, countenance bright, skin clear, muscles of the back in a state of continuous contraction, somewhat tender on pressure. No tenderness over spinous processes. In standing position nothing abnormal noticed about curves of spinal column. Pulse and temperature normal.

Was next seen October 4th at her house. She was dressed and lying on a lounge. Had more difficulty in walking; could sit down and get up without help, "but had to move just so or got a stitch in her back." Stood erect when walking. Nothing abnormal found in rectum or vagina. Pulse 80; temperature 99°.

From October 4th to 10th but little change in her condition. Sat up most of the time, and had but little pain if quiet.

October 16th. Had more trouble in moving. From 16th to 24th very little change. On the 24th, in bed. Thought she had been made worse by being on her feet so much, superintending preparations to move. Tenderness of muscles of the back about the same as when first seen. No tenderness or increased pain on percussion of the spine.

October 29th. On attempting to get out of bed fell to the floor; after being helped back to bed felt faint, and had severe pain in the back, shooting down the legs, any movement of the body causing great suffering. Pulse 100; temperature 100°. The next day was more comfortable; in pain only when attempting to move.

October 31st. Moved from one side of the bed to the other with but little pain.

November 1st. Walked into another room with the help of her husband.

November 3d. Rode half a mile in a hack (family moving), and felt none the worse for it. From this time till November 24th was comparatively free from pain, and sat up every day.

On the morning of the 24th, on attempting to get out of bed, had another fall. The pain was more severe than at any time before, and she complained of being chilly. Pulse 112; temperature 101°.

November 25th. Had nausea, with vomiting; pain continued severe, was much increased by motion; passed urine frequently and without difficulty. Examination of urine made at this time showed nothing abnormal except a little bile pigment and a few pus corpuscles.

November 27th. Had cutting pain in right hypochondriac region extending to epigastrium; tender on pressure. Lower border of the liver two inches below the ribs. Superficial veins of abdomen very prominent; but little pain in the back or legs. Pulse 120; temperature 101°. There was no marked change up to December 1st, on which date was more free from pain. Lower border of liver easily made out three inches below ribs; surface smooth, very tender on pressure. Vomiting continued. Countenance much changed; skin becoming of a pale-yellow color; conjunctiva clear.

From this time she continued to fail quite rapidly; when raised up to use bed-pan would say that her back was broken. She became very much emaciated, had a marked cachectic look, and died January 2, 1878, about three and a half months from beginning of symptoms.



*Autopsy*, eighteen hours after death. Head not examined. Heart and lungs healthy. Stomach and intestines showed no evidence of disease. Spleen small; otherwise healthy. The genito-urinary organs showed nothing abnormal. The liver, left kidney, and vertebræ showed extensive disease, and were sent to Dr. Fitz for examination.

A few days before death the patient confessed that for over twenty years she had been in the habit of using morphine; for the past five years the amount used had been two and a half drachms a week. This probably accounts in a measure for the absence of pain in the last weeks of life.

DR. FITZ showed the specimens referred to above, saying that probably the kidney was primarily affected, as but one kidney was involved, and the disease was uniformly diffused throughout a portion of that organ, showing itself as an infiltration of grayish material, in which pyramids and cortex were sharply differentiated, and the Malpighian bodies could often be seen with the aid of the microscope. The tissues immediately surrounding the kidney were apparently free from disease.

The liver was moderately enlarged, and its surface was studded with gray cancerous nodules, the largest of the size of walnuts. Similar appearances were found within the organ. A series of cancerous nodules, the largest about the size of a filbert, were found in the bodies of the lower dorsal and lumbar vertebræ, the bone structure being entirely obliterated in the parts affected. The body of the first lumbar vertebra had almost wholly disappeared, the adjoining intervertebral cartilages, dotted with adherent fragments of bone, and united by a few fibrous shreds, being in close contact. The structure of the new growth in the various organs was composed of a fibrous stroma of varying thickness, inclosing alveolar spaces, in which were numerous large, irregularly shaped cells, without evident intercellular substance.

JANUARY 21, 1878. *Plastic Surgery*.—DR. PORTER read a paper upon Cases of Plastic Surgery, with exhibition of patients and photographs.<sup>1</sup>

DR. INGALLS asked the reader if the operations were performed under the use of carbolic spray.

DR. PORTER said they were not, but that in the later cases he had used a dressing of carbolized water, which was applied hot, and kept so as long as there was danger of sloughing. In some instances cotton batting was applied over this dressing. In cases where no sloughing took place this dressing answered perfectly well.

*Aneurism of the Aorta*.—DR. KNIGHT reported the following case: The patient was a gentleman, thirty-one years of age, a surgeon in the navy, who had always enjoyed good health till his last illness, with the exception of what was considered muscular rheumatism after exposure to severe cold in China several years ago. In the summer of 1876, while in South America, after an attack of diarrhœa, he had "cold" with slight cough, pain in the left chest, and some dyspnœa. During the autumn the dyspnœa increased, and at one time he was said to have had "pneumonia of both lungs;" at another time he was said to have "pericarditis." The pain continued, and the dyspnœa became

<sup>1</sup> The cases were published in the JOURNAL, April 4, 1878.

worse. In November, 1876, he began to have some dysphagia. The pain, dyspnoea, and dysphagia continued, and he came home in the summer of 1877. On the voyage he had severe angina pectoris, and once there was partial paralysis of the left arm. There had been no palpitation up to this time, but there were very distressing eructations and pain between the shoulders. After his return in August he kept very quiet, most of the time in the recumbent position, and took very large doses of iodide of potassium (at one time one hundred and sixty grains a day). Pain in the spine and in the cardiac region was very intense, and later there were very exhausting palpitations. During the last six weeks of life he felt as if being strangled. The dysphagia was variable, and not very great until the last few days of his life. The last day he declined to take even liquid food on account of the distress produced by swallowing, which he also felt with every respiration. There was much emaciation, though he had taken sufficient food up to the last few days.

On the 13th of January he had two attacks of severe dyspnoea. Dr. Knight saw him after each had lost its severity; breathing, however, was then constantly difficult, and expiration was prolonged and audible at a distance. He said his suffering was indescribable, especially in anticipation of the exacerbations of dyspnoea. Dr. Knight promised to give him chloroform when another attack came, which occurred at about nine and a half p. m. The chloroform was continued by Dr. Knight, and afterwards by Dr. Van Slyck, of Brookline, at intervals until six a. m., the patient being in a semi-comatose condition, but when aroused showing so much suffering that the chloroform was renewed. From six till eleven a. m. he remained comatose, and died at the latter hour.

Dr. Knight's first physical examination was made August 14, 1877. The record was as follows: "Second rib (left) more prominent, near sternum (normal?). No dullness in region of heart or great vessels. No visible pulsation except a little just below ensiform cartilage. Impulse of apex not to be felt. First sound loudest in fifth intercostal space within mammary line. Sounds of heart regular and normal in character; no souffle anywhere. Respiratory murmur much weaker everywhere in left chest than in right; a stridor usually heard louder at top of left chest near sternum, which seems to give way, causing freer respiratory murmur. Radial pulses and pupils equal.

"Considering the angina, the dysphagia now constant, the signs of pressure on the left primary bronchus, and the pain referred to upper dorsal vertebrae I should strongly suspect aneurism of the thoracic aorta, posterior part of arch and descending portion."

There was never much change in the physical signs except the development of a soft systolic murmur in the pulmonary area, and an increase in the stridor in the left chest, heard especially with expiration. Dr. Knight said with reference to the symptoms that the dyspnoea seemed fairly attributable in the beginning to pressure on the left primary bronchus; afterwards, perhaps, to some pressure on the trachea also. The spasmodic exacerbation may have been due to spasm of the trachea referred to by some authors in such cases. There did not seem to be any spasm of the larynx.

The dysphagia, being variable at first, seemed perhaps better attributable to irritation of the pneumogastric, and later to direct pressure of the tumor on



the œsophagus. The eructations which were so painful to the patient have been referred to by Atlee in the *American Journal*, July, 1869, as a valuable sign of thoracic aneurism, the symptom being produced, of course, by pressure on pneumogastric fibres. In a case which Atlee reports, in which this was the only symptom, and in which no diagnosis was made, a small aneurism was found just in the seat of that in the present case. The excruciating pain between the shoulders which occurred during the last months was naturally referred to probable erosion of the spine.

The temporary partial loss of power in the arm, as the autopsy showed, could not have been from pressure on the brachial plexus, and as Dr. J. J. Putnam suggests may have been that partial paralysis which we sometimes see arise apparently from severe pain. The emaciation suggested possible pressure on the thoracic duct, which crosses from right to left in the suspected region.

There were no symptoms of rupture. After the relaxation of spasm by chloroform, there was no appearance of cyanosis (which was not marked before), and the patient seemed at last to die by asthenia.

*Autopsy.* The autopsy made by Dr. Sabine twenty-four hours after death gave the following results: Body rather emaciated. Rigor mortis well marked. Upon superficial inspection of thoracic viscera, after removal of sternum, nothing abnormal could be discovered. Heart was found relaxed and flabby, both sides being moderately filled with fluid blood and soft coagula. On both the anterior and posterior surfaces were patches of thickened pericardium, due to chronic inflammation. The left ventricle was slightly dilated, as was also the mitral valve, through which three fingers could be readily thrust. The lungs were perfectly healthy with the exception of very slight old pleuritic adhesions at apex of right lung, and slight catarrh of the larger bronchi.

After the lungs were removed an aneurismal dilatation of the descending portion of the arch of the aorta was found. The aneurism was about half the size of one's fist, sacculated, possessing very thin walls, and involved about three fourths of the circumference of the vessel, the left side being intact. It was adherent to the bodies of the fourth, fifth, sixth, and seventh dorsal vertebræ, the body of the sixth being eroded to the depth of half an inch, and that of the seventh slightly at its upper extremity. Both the left primary bronchus and the œsophagus were so pressed upon as to diminish their calibre at least one half, and an ulceration existed in the latter, at the point of greatest pressure, which extended very nearly into the sac. The left pneumogastric nerve lay between the aneurism and the compressed portion of the bronchus. Unfortunately the thoracic duct was not examined.

The inner surface of the whole thoracic aorta was studded with small elevated white patches due to commencing atheromatous process. All the abdominal viscera were found to be healthy. Head not examined.

*Malignant Disease of the Lung.* — DR. BOWDITCH mentioned the following case as illustrating how closely the symptoms were allied to those in the case reported by Dr. Knight. A broker consulted him on account of a continued coldness of the right arm, some obscure trouble about the chest, and pain in the back. There was diminished respiration near the root of the right

lung, but no abnormal physical signs about the heart. The patient consulted different physicians, but returned to Dr. Bowditch a year later with all his symptoms increased in severity. There was also partial paralysis of the right arm, which soon became complete. After months more of suffering, with similar symptoms, paraplegia ensued. From the absence of cardiac or aortic physical signs, the gradual lessening of the respiratory murmur in the right lung, and the general course and nature of the symptoms, Dr. Bowditch thought it probable that a malignant disease gradually extending had encroached upon the spinal marrow and the pulmonary structure. Dr. Brown-Séquard saw the patient at the time of the paraplegia. He did not suggest aneurism, and was inclined not to agree to the idea of malignant disease, but thought rather that a "cold abscess" had been gradually forming, and had finally broken through into the spinal canal. At the autopsy a cancerous mass was found involving a portion of the lung, and by a nodule of scirrhus hardness indenting the spinal column without apparently causing a real disease of it. The tumor was situated almost identically in the same relation to parts as the aneurism in the case reported by Dr. Knight.

*Extra-Uterine Fætation.* — DR. MARION reported the following case. Mrs. W. P. G., thirty-three and a half years of age, wife of a physician. Had one child about seventeen years of age. Had two abortions in the early months of gestation. Until within a few years had suffered a good deal from chronic endometritis, with at times profuse purulent discharge, accompanied by intense pain. She was under the care of Dr. Hunt, of Newtonville, then of Waltham. Within the last six years the husband frequently spoke to Dr. Marion of her suffering from one of her old attacks of pain, extending from the region of the right ovary to the uterus, remarking at the time how nearly impossible it was to make an examination of the bowels even, because of the extreme tenderness of the pelvic organs. She was subject to frequent attacks of neuralgia.

Her catamenia last appeared about the 29th of October, lasting three or four days. December 12th, forty days after the cessation of the catamenial flow, she complained of slight pain in the right side, which continued through the day. The following morning (December 13th) the pain came on again; as it was much more severe, she took an eighth of a grain of morphia, and remained in bed. From the 13th to the 17th inclusive she remained in bed, suffering little, unless she attempted to sit up. On the evening of the 17th, while taking her tea, she was seized with the most intense pain in the right side. At this time Dr. Marion first saw the patient professionally, and learned the above facts from her husband.

She lay on her back, knees drawn up, suffering intense pain, such as she had never before experienced. She said it seemed as if there were something running in her side. The pain was constant, with exacerbations. For the previous week she said she had had some nausea, and as she had passed her period she had thought of pregnancy, though she could not believe it possible, as she had often before been irregular. Examination of the abdomen was negative, except that it was extremely tender to the touch. Her husband made an examination per vaginam, and reported the uterus to be enlarged and ex-



tremely sensitive; so painful was it that a thorough examination was impracticable. The uterus, when the pain was severest, would almost rest on the perinæum. After taking one and one half grains of morphia in divided doses, with hot fomentations, and then leeches applied to the abdomen, she began to grow easier towards morning. On the 18th and 19th she remained about the same; pain less severe, though suffering a good deal all the time. On the 19th Dr. Marion made an examination per vaginam. Uterus enlarged and very tender to the touch, anteverted, opened so as to admit the first joint of the index finger. Bimanual examination was impracticable, on account of the pain it caused. On the morning of the 20th she said she felt much better, though her pulse had increased in frequency; from 80 to 90, it had increased to 120.

On the evening of the 20th the severe pain came on again, accompanied by terrible faintness. Dr. Minot was sent for. He confirmed what has already been stated concerning the uterus, and found the hypogastric region slightly dull on percussion. Respiration abdominal. Bowels but moderately distended. Pulse ranging from 130 to 150, wiry, and without volume. Temperature normal, as it had been from the first of her illness. On the 21st Dr. Hunt, of Newtonville, was asked to be present with Drs. Minot and Marion. Condition of the patient not materially changed. Dr. Hunt thought he had previously seen her look as badly, excepting the pulse, from the effects of morphia or ether; he stated that more than once he had been frightened by the alarming symptoms produced on her by narcotics. He hoped the attack might be similar to what she had before had. The probability of pregnancy and the possibility of its being extra-uterine were urged in this conference.

Patient remained about the same through the day and night, taking stimulants and nourishment tolerably well. Dr. Marion remained with her most of Friday night, and from midnight to four A. M. of Saturday. She slept some, was able to turn in bed with but little assistance; pulse at times came down to 120, and she said she felt better. At six A. M. she had another attack of pain, and was very faint. During the day much of what she took into her stomach was regurgitated. Bowels very tympanitic. Pulse 150 to 160. She died quietly at 6.40 in the afternoon, being conscious up to within two hours of her death. Her temperature was never above normal; two or three times she complained of being chilly, but never had a distinct rigor. She desired to be fanned constantly and vigorously.

*Autopsy.* Dr. FITZ stated that death was the result of hæmorrhage, some two quarts of liquid and clotted blood being found in the abdominal and pelvic cavities. The uterus was enlarged symmetrically, and measured externally four and a half inches in length, and three inches from the insertion of one Fallopian tube to that of the other. Its outer surface showed several old adhesions and fibrous patches. The walls were thickened, and contained numerous dilated veins. The lining membrane of the uterus was red and soft, about one fourth of an inch in thickness, the surface relatively smooth and glistening though somewhat lobulated, and was dotted with numerous points, evidently glandular orifices. The attachment of this membrane ceased abruptly at the os internum, although it was continued into the cervical canal as a tongue-shaped

projection nearly one half inch in length. A probe readily passed from the uterine cavity through this projection. The thickened membrane did not extend into the Fallopian tubes.

About three fourths of an inch from the fimbriated extremity of the right Fallopian tube, and intimately connected with the latter, was a cyst somewhat larger than an English walnut, lying between the peritoneal layers of the broad ligament, and projecting into the recto-uterine fossa. The wall of the cyst was formed by a double layer of membrane, between which was a firm clot of blood. In the interior of the cyst was a fetus two thirds of an inch in length. The peritoneal covering of the cyst was perforated, and several delicate recent adhesions were seen upon the surface. There was no evident constriction of the Fallopian tube, and its canal was unobstructed from the foetal sac to the uterus. The right ovary contained a corpus luteum of the size of a large pea.

*Rupture of Left Ventricle.* — Dr. J. T. G. NICHOLS reported the following case of rupture of the left ventricle in two places, both connecting with one external opening. Female, sixty-six years old. Father and sister died suddenly of supposed "heart disease." She had never had symptoms referred to the heart. At ten A. M., soon after going up two flights of stairs rather hastily, she was seized with severe pain referred to the middle of the sternum. This pain in a few hours shifted to the epigastrium, and later was described as a sense of constriction at the latter point. When seen, an hour after the attack, she was very pale, with an anxious expression; breathing natural; pulse feeble, 60 to 70; heart sounds very weak, but distinct, and without murmur. The face and arms were cold and clammy, the lower extremities warm. No cyanosis. At noon she vomited, and had a discharge from the bowels. The arms became warmer as the day advanced; at 9.30 P. M., after vomiting, she died very suddenly. The pericardium contained bloody serum and a coffee-cup full of dark coagula.

*Heart Clot.* — Dr. HAMILTON, of the United States Marine Hospital service, presented a popliteal artery and vein taken from a patient who had died on the sixth day after an amputation at the knee-joint, the ligature upon the artery having remained intact until removal. The post-mortem examination revealed that death resulted from closure of the tricuspid valve by a large fibrinous clot in the right auricle; the other organs of the body and the stump presented a healthy appearance.

The specimens were interesting: one as showing the thrombus in an artery the sixth day after ligation; the other as showing that pus from the flaps had traveled along the vein for a distance of about three inches, thus demonstrating the propriety of the ligation of veins in amputations to prevent the entrance of pus into the general circulation.



DUHRING'S ATLAS OF SKIN DISEASES.<sup>1</sup>

PART III. of this admirable work is now ready for distribution. Extraordinary care has been taken, as we know, by its author to insure not only excellence in the artistic quality of the work, but also that each plate shall be delivered to the public in a perfect condition ; and this has been accomplished by his personal scrutiny at every stage of the process. Few can truly appreciate the labor and expense bestowed by Dr. Duhring upon this publication ; but the profession should express its encouragement of such work by a wide subscription. It is improbable that opportunity for obtaining such faithful illustrations of skin diseases will soon occur again.

We cannot add much to what we have already expressed in our notice of previous parts<sup>2</sup> concerning the scientific character of the Atlas. In the present part the drawing is as good, the coloring even better, we think, than before. The cases, eczema (squamosum), syphiloderma (erythematosum), purpura (simplex), and syphiloderma (papulosum et pustulosum), are most judiciously selected, and the descriptive text, we need hardly say, is excellent. The whole is highly creditable to the author and to American dermatology.

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ERICHSEN'S SURGERY.<sup>1</sup>

SINCE the appearance of the previous edition of this book, the visit of its distinguished author to this country and his favorable reception have increased the interest felt by our countrymen in a surgeon of such high standing and a writer, so modest and industrious, of a work second to none of its kind in the English language. It is but five years since we received a new and revised edition with numerous alterations, and yet in the present one we find a great many additions in nearly every department. One hundred and fifty illustrations have been added. These are pretty evenly distributed over the book, but we notice that special attention has been given to surgical pathology, and an attempt has been made to meet the requirements of the modern student in a branch of surgical science as to which most text-books still maintain an almost mediæval attitude. Mr. Erichsen has manfully attacked this and many other subjects with an industry which we could hardly expect from a man who had already gained so many laurels. The consequence is that the present edition is more nearly "up to the times" than any other surgical work we are familiar with. There are many faults, and such as are not remedied by the changes usually thought necessary in new editions, but these are common to all surgical text-books. We should prefer to see a tendency towards an

<sup>1</sup> *Atlas of Skin Diseases*. Part III. By LOUIS A. DUHRING, M. D., Professor of Skin Diseases in the Hospital of the University of Pennsylvania ; Physician to the Dispensary for Skin Diseases, Philadelphia, etc. Philadelphia : J. B. Lippincott & Co. 1878.

<sup>2</sup> See *Journal*, July 13, 1876, and June 7, 1877.

<sup>3</sup> *The Science and Art of Surgery*. Being a Treatise on Surgical Injuries, Diseases, and Operations. By JOHN ERIC ERICHSEN, F. R. S., F. R. C. S. Revised by the author from the seventh and enlarged English edition. Philadelphia : Henry C. Lea.

entirely new system of compiling works on surgery, many special branches being omitted entirely, illustrations employed chiefly as diagrams, no attempt made to represent delicate morbid changes by the usual rough wood-cuts, sensational illustrations abandoned, and many of the faults of the previous generations of writers discarded; but it would be ungracious to select so favorable a specimen of the surgical literature of to-day for these criticisms, and we can therefore close our remarks with a hearty commendation of the book to students and practitioners as being the very best they can buy.

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### THE NATIONAL QUARANTINE.

On the 27th of March, 1878, Hon. W. H. Felton, of Georgia, chairman of the committee on commerce, reported back the house bill, "*To prevent the introduction of contagious or infectious diseases into the United States*," which bill, after a short discussion, was amended and passed. On the 18th of April, the bill, having been favorably reported by the senate committee on commerce, was hastily taken up out of its regular order, on motion of Senator Gordon, and passed.

This bill provides in section 2 that when any vessel clears for the United States out of any foreign port, where any contagious disease is prevailing, the United States consular officer at that port shall immediately inform the supervising surgeon-general of the Marine Hospital service of the fact, together with the port of destination of the vessel; and such officers are further required to make weekly reports of the sanitary condition of the ports where they are stationed to the supervising surgeon-general of the Marine Hospital service.

Section 3 provides that the medical officers of the Marine Hospital service and custom officers shall aid in the enforcement of the regulations to be hereafter adopted by the surgeon-general.

Section 4 provides that the supervising surgeon-general shall transmit weekly abstracts of the consular reports above mentioned to the medical officers of the Marine Hospital service, the collectors of customs, and the state and municipal health authorities in the United States.

Section 5 provides that where a local quarantine already exists, the officers thereof, on the application of the state or municipal authorities, shall be considered as United States officers for quarantine purposes, but shall receive no pay for such service.

It is noticeable that those most urgent in hurrying the passage of this bill were from the Southern States, where quarantine is least efficient; but that nevertheless great care was taken to prevent encroachment on the states rights doctrine by the expedient of making government officers out of the local authorities, albeit in a Pickwickian sense.

The necessity of a measure of this kind has long been recognized. The house committee on commerce as long ago as April 2, 1844, reported favorably upon a bill for the establishment of a marine hospital at Key West, Fla., and recommended that it be used as a quarantine. Accompanying this report



was a presentment of the grand jury of the city of Key West, soliciting aid from the general government on account of cases of yellow fever among the sailors treated by the city.

We deem it unnecessary to cite the history of the many epidemics of yellow fever that have prevailed upon our Southern sea-board, the gulf coast, and the cities and villages along our Southern rivers, nor to that of the disastrous cholera epidemic of 1873, to convince our readers that at the Southern sea-board, at least, something more powerful than local laws, and more wide-spreading in its operation, is necessary promptly to prevent a repetition of these distressing calamities.

The bill now passed embodies most of the suggestions of Surgeon-General Woodworth to the Public Health Association in 1873, and promises to make the Marine Hospital service a "life-saving service," to which the country may look for assistance in attaining "that pronounced end and aim of all sanitary science, the prevention of disease, and the protection and preservation of the public health."

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#### MEDICAL NOTES.

— Rapid lithotrity with evacuation has already had a trial in New York. At a meeting of the New York Pathological Society, held March 27th, Dr. Keyes showed a specimen of stone removed by Dr. Bigelow's method. The patient was sixty-three years of age. The first crushing lasted twenty minutes, and on washing out the bladder ninety-four grains were obtained, the second crushing yielded twenty-nine grains, the whole operation not occupying an hour.

— By reference to the notice of the Boston Board of Health which is advertised in the JOURNAL, it will be seen that all physicians are required to report *every* case of diphtheria. A notice of one case in a family does not exempt a physician from reporting any subsequent cases that may occur in the same family. A misunderstanding of the order by many physicians has caused the board again to call attention to their order relating to the reporting of such cases.

— By a recent act of the legislature, which went into effect May 1st, physicians in Massachusetts are required, as will be seen by reference to the law published elsewhere in the JOURNAL, to sign only one death certificate. Hereafter the proper returns are first submitted to the Board of Health for their approval, and, after being stamped "approved" there, must be carried to the registrar's office, who alone has the right to issue a permit for burial.

— A new quarterly journal devoted to neurology is about to appear in England. It is called *Brain*, and is edited by Drs. Bucknill, Crichton-Browne, Ferrier, and Hughlings Jackson. It will give articles treating of the anatomy, physiology, and therapeutics of the nervous system. Messrs. Macmillan & Co. are the publishers.

— The *British Medical Journal* mentions the case of a man who, while lifting, felt something give way, and died in a few minutes. The necropsy revealed a small aneurism about the size of a pea at the left of the aorta, half an inch behind and to the left of the coronary artery. The opening was no larger than a pin's head.

— Dr. Weil, of Munich, reports success in the replantation of teeth which he had extracted in order to cleanse the nerve canal and remove the effects of disease. Restrictions upon the use of the reinserted teeth were removed at the end of three weeks.

— Dr. J. R. Mayer, of Heilbronn, is dead. He was famous as the propounder of the mechanical theory of heat.

— Cobbold, the eminent helminthologist, has demonstrated, by dissections of the mosquito, that from the blood of human beings it sucks filariae, deposits them in cisterns, wells, etc., and that these entozoa are received into the bodies of those who drink such water.

— The tercentennial anniversary of Harvey's birth has revived the discussion as to the true nature of his connection with the discovery of the circulation of the blood. In the *Medical Press and Circular* for April 3d it will be seen that Huxley and the editors take different views. In the *Gentleman's Magazine* for April will be found a charming lecture, by Dr. B. W. Richardson, on Harvey during three stages of his life. Richardson fairly disposes of the various attempts to deprive Harvey of his claim to the name of "discoverer" of the circulation.

— The mortality from whooping-cough in London during the first week of April was greater than in any previous week for thirty-nine years. The number of deaths was one hundred and fifty-eight.

— A Vienna letter to the same journal (April 4th) contains the following extraordinary passages: "Marion Sims has just left Vienna, having received from the medical world here ovations as perfect as General Grant has from Europe at large. At a grand banquet given in his honor, he remarked in the course of a *several hours' speech in English* [italics not ours] that he had as yet met with no such reception, a remark which may suggest several ideas to a thoughtful mind."

— It is proposed to erect a statue to the memory of Harvey at Folkestone, where he was born in 1578. To this end £1100 have already been raised, £1800 being the amount required.

— The regular medical societies of Philadelphia are endeavoring to obtain the passage of a law providing that "no person duly authorized to practice physic or surgery shall be allowed or compelled to disclose any information which he may have acquired in attending any patient in his professional character, and which information was necessary to enable him to prescribe for such patient as a physician, or to do any act for him as a surgeon."

— Dr. Hamilton, of New York, finds that Dr. Dwight, of Brooklyn, is correct in his assertion that in a large proportion of persons the lower limbs are of unequal length. In his measurement, Dr. Hamilton found where the legs differed in length that the left was usually the longer.

— In a few weeks a festival will be held in Liège to celebrate the fortieth year of the professorship of Theodore Schwann, the author of the cell theory. The founder of modern histology is still living and actually professor of physiology in the Belgian University. The *Lancet* states that "all Englishmen of science who have specially occupied themselves in the field opened by Schwann are begged to address Prof. Ed. Van Benedin, Liège, and inclose their photographs for insertion in an album to be presented to Professor Schwann."



— At a recent meeting of the Pathological Society of Brussels, M. Wehenkel showed a new and improved test for the so-called amyloid degeneration. It is aniline violet. On treating the suspected tissue with this color the points of amyloid matter rapidly assume the color of mahogany red.

— At the annual meeting of the medical staff of the St. John's Hospital, Lowell, Dr. John O. Green was chosen chairman, and Dr. Nathan Allen secretary. In his report for last year Dr. Allen gives an encouraging account of the usefulness of this hospital, and in considering the various forms of disease treated dwells upon the fact that a large number found their origin in intemperance.

— In a paper read before the Society of Arts, Sir Joseph Fayrer called attention to the necessity of an organized establishment in India for the purpose of more effectually preventing the great destruction of life from wild animals. The *Times and Gazette* in quoting from this paper gives the following astounding figures: In the year 1875 no less than 20,805 persons and 46,805 head of cattle perished from this cause. Of these 17,070 persons died from the bites of snakes, 1016 persons were killed by wolves, and 828 persons by tigers. Through the exertions of the government the death rate from disease has been reduced to less than one third of its former figure (69 to 18). In the matter of exterminating wild beasts, however, they have to meet with the difficulty in obtaining native coöperation, arising from superstitious motives.

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## BOSTON CITY HOSPITAL.

IN THE SERVICE OF DR. HALL CURTIS.

[REPORTED BY S. E. FITZ.]

*Case of Yellow Atrophy of the Liver.* — Mrs. E. T., widow, tailoress, sixty-five years, was born and lived in Boston, and was admitted to the hospital March 11, 1878. The history obtained was deficient because of her somewhat stupid, almost typhoid condition. She had always been a strong woman, of temperate habits and general good health; was at Taunton Asylum for Insane for some time previous to last December; and had been as well as usual during the winter and till about two weeks before, when exposure to bad weather was followed by general pains, especially severe in shoulders and neck, and also by considerable indisposition. She kept up, however, until vertigo, weakness, and finally chills compelled her to take to her bed four days before admission. She came in complaining of pain, not very severe, in the abdomen, most marked at the epigastrium; of pain in the back, from the lumbar region downward; of some pain before micturition; of constipation, thirst, anorexia, and nausea. The whole surface of the skin was icteric, dry, but not hot. The tongue was coated white, and inclined to be dry. Pulse 76; temperature 103.5° F. Liquid diet and a cathartic were given.

March 12th. Little sleep last night, because of abdominal pain and nausea. Vomited nearly everything taken, even milk and lime-water. One dejection to-day, not peculiar. Nothing abnormal detected in chest except feeble heart

sounds and tenderness at right base, which extended to right hypochondrium and epigastrium. A. M., pulse 80; temperature 99°. P. M., pulse 64; temperature 97.5°.

March 13th. Pupils much contracted, but sensitive. Increased icterus and nausea; vomitus, which before was curdy and light colored, now became a dark-brown fluid. Still considerable tenderness in hepatic region, with an indistinct feeling of resistance. Less pain. Made no complaint of anything. P. M., pulse 68; temperature 96.4°. Ordered pil. hydrarg., five grains, to be followed by a saline cathartic.

March 14th. The patient complained of pain during first part of night, but toward morning became quiet, and appeared to sleep. At morning visit decubitus was, as often before, on right side, skin more deeply yellow, face sunken, eyes rolled upward. She noticed nothing, appeared dull, sleepy, and, when aroused, mind wandered. The little nourishment taken was soon vomited with a greenish-brown, thick fluid. In the evening became unconscious, could not be aroused, and soon began to have clonic convulsions over whole body, with groaning expiration. There were seven or eight paroxysms up to midnight, when coma became complete, and so continued till death, four hours later.

The autopsy was made by Dr. W. P. Bolles, thirty hours after death. Body not emaciated, a brownish fluid oozing from nostrils. There was yellow discoloration of the entire body, showing itself in the skin, conjunctivæ, and fat of section. *Brain* normal. *Lungs* did not collapse much on opening the thorax. No adhesions. No serum in pleural cavities. Section of lungs gave numerous dark ecchymoses and considerable œdematous fluid. *Heart* normal, though there was much pericardial fat. *Stomach* partly filled with a somewhat viscid fluid, dark brown with a tinge of green, and consisting of mucus, blood, and probably bile. There was a slight constriction near the pyloric extremity (not the result of disease), and on the ridge thus formed, near the greater curvature, was an ulcer, one eighth to one sixth inch in diameter, extending through the mucous membrane only. *Intestines* normal. *Liver* was reduced in size, weighed one pound and fourteen ounces, was thin, flabby, easily broken through with the finger, readily folded on itself, and shriveled-looking on surface, which was slightly uneven. Its color was dull yellow mottled with darker spots. Its section was brownish-yellow in color, soft, flabby, the usual lobular structure being much obscured. The section was flecked also with dark ecchymotic spots, corresponding to those appearing on the external surface.

The *gall-bladder* was empty. A calculus one third inch long was lying loose in the hepatic duct. The *spleen* was normal, though rather soft. The *kidneys* were little altered in size. They were of a dark-reddish color, with evident yellowish tone pervading. No change of structure was visible to the naked eye.

Dr. R. H. Fitz kindly examined parts of the liver and kidneys. He says, "There can be no doubt of the nature of the liver, which under the microscope showed granular detritus, fat drops, leucine and tyrosine crystals, and no normal cells. The kidney was a superb specimen of acute parenchymatous nephritis, with universal fatty degeneration, such as might occur from arsenic or phosphorus."



VICARIOUS MENSTRUATION.

MR. EDITOR, — In June, 1877, I was called to attend Mrs. W. J. D., aged twenty-five, married, very robust, and plethoric. She had severe epistaxis, losing a large amount of blood, so that she was faint on rising to a sitting posture. She said she supposed herself to be pregnant. Fluid extract of ergot was prescribed, with good effect, for the hæmorrhage ceased in a few hours. She afterwards had attacks of the same kind regularly every month until her confinement on February 5, 1878. Her labor was natural, except that there was severe post-partum hæmorrhage from insufficient contraction of the uterus. She told me that she had had the bleeding at the nose every month since the first visit I made her, but as she had the ergot on hand she treated herself after allowing the bleeding to go on a day or two, for she said it relieved her of a feeling of malaise accompanied by distention of the bowels and slight pains like those of the beginning of labor. Evidence of the truth of her statement was given by a woman who lived in the same house with her, who told me she had not missed a period since June, 1877. In a previous pregnancy she said that she had the same bleeding, but not so regularly, as in this instance. Was it a case of vicarious menstruation, if there is such a thing?

DANIEL E. WELLS, M. D.

BETHLEHEM, N. H., February 11, 1878.

COMPARATIVE MORTALITY-RATES.

	Estimated Pop- ulation, July 1, 1878.	Deaths during week ending April 27, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean for ten Years, '68-77.
New York.	1,093,171	503	23.92	23.42	28.71
Philadelphia.	876,118	297	17.63	18.80	21.54
Brooklyn.	549,438	223	21.11	21.51	25.50
Chicago.	460,000	120	13.56	17.83	22.39
Boston.	375,476	116	16.06	20.10	24.34
Providence.	100,000	42	21.84	18.81	19.20
Lowell.	55,798	19	17.71	19.09	22.50
Worcester.	54,937	19	17.99	14.07	22.30
Cambridge.	53,547	17	16.50	18.69	20.83
Fall River.	53,207	24	23.46	21.35	24.96
Lynn.	35,528	16	23.45	20.42	19.67
Springfield.	33,981	8	12.25	16.04	19.77
Salem.	27,140	7	13.41	20.38	21.15

OBITUARY. — The following resolutions were adopted at the annual meeting of the Bristol North District Medical Society on the death of Dr. Benoni Carpenter: —  
*Preamble:* Since our last stated meeting an esteemed Fellow of this society, — one of its founders, — Dr. Benoni Carpenter, of Pawtucket, R. I., by decree of the Great Dispenser of events has passed that bourne whence no traveler returns. Therefore it is  
*Resolved,* That in the death of Dr. Carpenter we all parted from a professional brother

ever alive and true, not only to the highest interests of our profession, but also to the weal of the community, one who could not be turned from the path of rectitude by the promise of pecuniary gain. He was no pretender.

That, while we mourn his loss and would mingle a sympathetic tear with the relatives and friends of the deceased, our hearts go up in devout gratitude to the Giver of all good for his manly virtues, his cultivated mind, his length of days, his consistent and useful life, and especially that his lot was cast in with ours. We are comforted by the thought that he has gone heavenward.

C. HOWE, M. D.,  
J. MURPHY, M. D., } *Committee.*  
N. M. RANSOM, M. D.

W. S. ROBINSON, M. D., *Secretary.*

OBITUARY. — Dr. H. C. Bickford, who died at Woburn, March 26th, was born at New London, N. H., in 1817. He came to Massachusetts while quite young, and by steady ambition and indomitable will he gained an education. He studied medicine at Newport, R. I., with Dr. Otis Ayer, New Hampton, attending lectures at Hanover, and Jefferson Medical College, Philadelphia, graduating from the last-named college in 1845. He practiced medicine six years in his native town, ten years in Billerica, and fifteen years in Charlestown. His close interest, sound judgment, and real love for his profession soon won him a high reputation, both as a practitioner and a counselor among his medical brethren; and his kind disposition and Christian character made him a place in the hearts and homes of his patients. Two years ago he gave up his practice and removed to Woburn, hoping to allay the disease which had burdened him for the last twenty years, and to prolong his life, but it followed him there, and to-day his family and friends mourn a loss to them forever irreparable.

MASSACHUSETTS MEDICAL SOCIETY. — The following papers will be read at the annual meeting of the Massachusetts Medical Society: Anomalies in Pregnancy, by J. Crowell, M. D., of Haverhill. Floating Spleens, by F. C. Shattuck, M. D., of Boston. Absence of Resonance in Fifth Right Intercostal Space diagnostic of Pericardial Effusion; Erroneous Ideas as to the Form of its Area of Dullness, T. M. Rotch, M. D., of Boston. Case of Strangulated Hernia, with remarks, C. P. Chamberlain, M. D., of Lawrence. Early Symptoms in Hip Disease, E. H. Bradford, M. D., of Lawrence. Filth and Typhoid Fever, S. W. Fletcher, M. D., of Pepperell. The afternoon of the first day will be devoted to papers read by members of the Massachusetts Medico-Legal Society: (1.) Annual Address of the President of the Massachusetts Medico-Legal Society, Alfred Hosmer, M. D. (2.) Annual Report of the Standing Committee, being a digest of returns from members of the society by the corresponding secretary, F. Winsor, M. D. (3.) Concerning Coroners and the Theory and Practice of Inquests, by Theodore H. Tyndale, Esq., associate member. (4.) Value of Anatomical Evidence, by R. H. Fitz, M. D., associate member. (5.) The Relation which Chemistry bears to Forensic Medicine, by E. S. Wood, M. D., associate member. (6.) Cases illustrating the Work and Duties of the Medical Examiner, by F. W. Draper, M. D. (7.) A Case of Arsenical Poisoning, with Fatty Degeneration of Liver and Kidneys, by J. G. Pinkham, M. D.

AMERICAN MEDICAL ASSOCIATION. — The chairman and secretaries of the several sections of the American Medical Association are requested to send in (by title) the papers to come before them, with the time required for reading; also all gentlemen having papers to present, not referable to the sections, will send as above without delay to Thomas F. Rochester, chairman of committee of arrangements, Buffalo, N. Y.

ERRATUM. — In the list of officers of the Middlesex South District Medical Society, in the JOURNAL of the 2d instant, the librarian's name should be Charles K. Cutter.

BOSTON CITY HOSPITAL. — We call attention to the advertisement regarding the examinations for house officers.

BOOKS AND PAMPHLETS RECEIVED. — On Hæmaturia. By O. Hoff, M. D. Philadelphia: Lindsay and Blakiston. 1878.

Review of Recent Theories of Brain and Nerve Action, etc. By John J. Caldwell, M. D. Baltimore, Md.



# THE BOSTON MEDICAL AND SURGICAL JOURNAL.

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## LECTURES.

### MELANODERMA: A CLINICAL LECTURE.

BY JAMES C. WHITE, M. D.,

*Professor of Dermatology in Harvard University.*

GENTLEMEN, — I show you this morning a woman whose face is largely covered with stains of irregular shape, the color of which varies in intensity from a light yellow to the deepest shade of brown. You have had opportunity recently of seeing in one of the wards a man whose face and other parts of the body were of a uniform dusky hue, and last week I called your attention to three young boys, brothers, affected with *tinea tricophytina*, whose faces appeared thickly bespattered with small yellowish and brownish spots. These are all cases of abnormal pigmentation.

You all know how manifold are the colors of the human skin ; how it varies in the different races of mankind from ivory to coal, with infinite intermediate neutral shades and the warmer tints of yellow and red, which combined give such beauty and richness to the complexion that the painter with all his colors in vain tries to imitate it. Yet when life has gone, and we seek with the aid of the scalpel, the microscope, and chemistry for the materials which have given such freshness of bloom, delicate transparency, and changing brilliancy to the face of the young girl, we find only pallor and a few minute granules of a dark pigment in the cells of the skin. All the beauty of color faded with life as the blood ceased to flow, and it is to the vitalizing presence of this fluid and its varying conditions and volume that the richest colors of the skin are due. Besides it we find only the nearly colorless epidermal cells and corium, the yellowness of a little fat, and more or less, as stated, of a black pigment matter. This pigment, however, is the cause of the great diversity in hue of the various races of mankind and of the different parts of the body, according to its amount and distribution. The fairest skins will show in adult life some darkening in certain localities, while in some persons such coloring approaches that of the blackest African. The seat of this pigment is the cells of the rete mucosum, which contain a finely granular and homogeneous coloring matter ar-

ranged about the nuclei; in the lowest cells alone of parts slightly colored, but distributed throughout the whole cells of darker tint, and in several layers in those most darkly tinted. The cells of the horny layer are either free from color, or are of a faintly yellowish tint over parts thus colored. In the negro and other colored races the corium is wholly free from pigment, as in the white nations, the overlying mucous layer containing in its deepest layers of cells between the papillæ the entire coloring matter, fading out into brownish and yellowish or complete transparency as they approach the horny layer, which has sometimes also a yellowish hue. Examined by the microscope the pigmentary matter is sometimes found to assume a crystalline shape, rhombic tables with sharp angles, though generally in the form of fine granules. It is insoluble in water, ether, alcohol, and acids, but boiled in potash it forms a brown solution, and loses its color when heated with chlorine. Ignited it leaves an ash which contains a considerable amount of iron, which, with other circumstances, leads to the belief that it is a metamorphosed hæmatoidin or blood pigment.

The so-called chromatogenous or pigmentary affections of the skin are chiefly variations in the amount and distribution of the normal coloring matter over its surface. They may be divided into three well-marked classes: (1.) An excess of pigment, general or local. (2.) A deficiency of pigment, partial or general. (3.) The presence of pigment of an abnormal or extraneous character.

The first class alone will engage our attention to-day.

It would seem to be necessary at the start to establish a normal standard, by reference to which we may decide whether an individual case deviates far enough to be considered disease. This, however, is impossible so far as the general coloring of the body is concerned, for even among the white Latin races whole nations inhabiting subtropical latitudes approach the blacks in depth of color, and the palest Saxon stock furnishes a large percentage of dark-skinned families. It is evident, then, that each individual must find in the general color of his skin his own standard, and that variations from this in different periods of life or portions of his body constitute the affections we are about to consider. Changes in color of some parts do take place, however, which are not to be looked upon as abnormal, but as occurring at certain times and in some individuals in the course of nature. Such are the darkening of the genitals in mature life, amounting at times to the deepest shades of brown; the duskiness of the skin about the anus and axillæ in adults, and the deposition of pigment about the nipple and along the lineæ alba in the female during pregnancy. These changes, as I have said, are natural processes, but anatomically they differ in no way from the affections to be considered; they are simply an excess of the normal pigment in the Malpighian layer in such parts under the action of physiological laws.



The simplest deviation from the normal condition of the pigment is its excessive development upon such parts of the skin of many persons as are exposed to the weather, which we call *tanning*. It is not the direct rays of the sun that are the exciting agent in this change, for a few hours' exposure to sea air and fog, even when the sun is obscured, will produce a marked alteration of color upon some persons, and there seems to be a difference of tint in the faces of the sailor and of the outdoor laborer on shore. It is astonishing how rapidly and to how great an extent the pigment is developed in some skins under exposure, as witnessed on the necks and arms of the fairest oarsmen and ball-players at the end of the season; a few months only being sufficient to develop a hue as swarthy as that of the darkest Latin nations, and suggesting what cycles of a tropical sun might do and may have done in painting the various races of mankind. Tan and sunburn, it must be borne in mind, are two distinct processes, though produced by the same cause, the latter being a temporary congestion or erythema of the skin, and in no way primarily connected with the pigmentary system. They may occur simultaneously, but often the skin which "burns" easily does not tan readily, and *vice versâ*. Frequent burning, however, like all congestions, is apt to develop an excess of pigment in parts thus over-supplied with blood according to a well-known law. Ordinary tan generally disappears spontaneously during the winter in our latitude of strong extremes, where the cold outrules the heat, and where all warmth of color both in animal and plant fades out with departing summer. In our Southern States, peopled by the same original Anglo-Saxon stock as ourselves, the hue of the skin is several shades darker than our own, and the shorter winter exerts but a mild bleaching influence upon it. There, too, miscegenation has given us ample opportunity of studying the effect of dilution upon the intense blackness of the negro race, and although a single cross is found sufficient to diminish this to a great extent, it requires many successive intermixtures to deprive the cells of the rete of all their native pigment.

*Freckles.* — In this condition, called by some writers *ephelis*, by others *lentigo*, the pigment instead of being increased uniformly over the general surface of exposed parts, as in tanning, is developed in excess in the form of small spots of circular or irregular outline, varying in shade from a light yellow, through red, to the darkest brown. Single spots seldom exceed a pea in size, but by grouping or confluence patches of considerable area are sometimes formed. They occur mostly on those portions of the body exposed to the air, as the face, neck, and backs of the hands, and chiefly upon fair skins. They attain their highest development in red-haired persons, sometimes disfiguring their faces as with a uniform mask of a deep orange color, while elsewhere such skins are peculiarly white and transparent. Freckles are by no means, however,

confined to the skins of blondes, and are often seen most abundant upon mulattoes. Commonly supposed to be due to the direct action of the sun's rays, and called on this account summer-spots in German, they not unfrequently last all the year round, although fading to some extent and frequently wholly disappearing in winter. They sometimes, moreover, occur on other parts of the body, those always protected from the sun, and may be generally distributed over the surface. They are most abundant in childhood, but the worst forms persist through life.

There is another form of pigment spot upon the skin closely allied to freckling, which, too, has been called sometimes lentigo, sometimes ephelis, by different writers. They are both included by Hebra under the common term lentigines. The pathological process is the same, — an increase of pigment development in the form of circular spots. These spots differ, however, from freckles in several respects. They are much fewer in number, more isolated, often solitary. They are much larger, too, varying in size from a pea to two inches or more in diameter. They occur most frequently as single circular or oval patches, of a light yellow or buff color and sharply defined outline. They appear, too, at an earlier age, often soon after birth, and without apparent connection with exposure of the part affected to the air or sun. They affect chiefly the temples and back of the neck, but may show themselves upon any part of the body. They change little with the season, and generally persist for years or a life-time. Like freckles they are accompanied by no alteration in the surface cuticle, and are in no way connected with the condition of the general economy. Of their cause we know nothing.

*Chloasma. Melasma.* — These, too, are terms which are used with indifferent or diverse meanings by various writers on dermatology, the former being employed by some to designate merely the discolorations upon the face commonly called moth patches, while others use it as a general term to cover all extensive forms of melanoderma, whether local or universal. Hypertrophy of pigment over extensive portions of the body arises from a variety of direct causes, or may be symptomatic of several constitutional affections. In the first class are to be included all those forms which follow active or long-continued congestions of the skin, of extraneous origin. Any cause which excites a repeated or prolonged hyperæmia in the skin induces a more active formation of the pigment cells in the rete; therefore in the chronic exudative processes the parts affected assume a darker hue than natural. We see this especially in lichen ruber, in which the affected skin becomes as dark as a mulatto's; in psoriasis; in eczema, about the ankles especially, where the circulation is naturally most sluggish, etc. The same result follows the direct action of any stimulant upon the skin, a blister or even a sinapism being sufficient to produce a dark stain when applied upon some per-



sons, which may fade away very slowly, or even never wholly disappear ; a possible result too often forgotten by those who order them upon parts exposed to view. Many a woman is prevented from dressing *décolletée* through the negligence or ignorance of her physician upon this point. The process of tanning first mentioned is caused by the slight and repeated congestions of the skin on exposure to the sun's rays. Scratching, too, if practiced constantly and for long periods, is capable in the same way of producing most intense grades of pigmentation. Individuals of the dirty Slavic races of the Austrian empire, who seek relief in the Vienna hospital from a life-long plague of body lice, are sometimes almost as black as the darkest negroes from this cause alone, the skin being kept in a state of perpetual hyperæmia through the bites of these animals and the action of the nails. So, too, long-continued pressure upon any part, by producing passive congestion or stasis of the cutaneous circulation, will give rise to quite deep stains.

Such forms of melanoderma are easily understood, — increased vascularity of the papillæ, increased production of pigment cells in the rete. They are the result of direct causes, and in no way connected with any fault of the general economy. With the so-called symptomatic forms, however, it is otherwise. They are either associated indirectly with serious alteration of the deeper cutaneous tissues in certain rare affections of the integument, or they accompany those grave changes in the general condition of the body we call cachexias. Of the first variety the diffused discolorations which form so conspicuous a feature in most cases of scleroderma, and the more localized pigmentation about the circular patches of morphœa, are striking examples. Of the latter the best illustrations are furnished by the smaller pigment stains in the course of phthisis ; by the more general dusky hue of the skin in persons subjected to the long-continued action of the malarial poison ; and by that intense bronzing or blackening, more or less universal, which is one of the most prominent manifestations in that mysterious group of symptoms we call Addison's disease. To these the French would add another variety, *la cachexie par privation*, — that condition of advanced debility or physical neglect dependent upon prolonged destitution, in which the body and skin receive no care whatever, and which may well be called the affection of misery, or vagabond's disease. Such forms of melasma are rarely seen with us, but in foreign hospitals examples drawn from the habitual pauper classes are not uncommon. Their position, however, in this group is questionable, because in all of them it will be found that the skin has been through life subject to the irritation of clothes' lice ; that in reality pediculi are the prime factor in the pigmentary change. They should be regarded, therefore, rather as instances under the first or idiopathic group. We know almost nothing of the ætiology of these latter affections. The

visible coloration is due, as in the former group, to excessive formation of the pigment cells in the rete alone, although not the result of antecedent hyperæmia or stasis; but this hypertrophy is not confined to them, for pigment is found in some of them deposited also in the tissues of the cutis along the course of the blood-vessels, in the mucous membrane within the mouth, in the interior of the eye, in the spleen, etc. Writers, as you know, have assigned such pigment formation to changes in the suprarenal capsules, to disturbances in the vaso-motor or sympathetic nerves. The first of these theories is disproved entirely by extended observation; the latter rests upon pure assumption. Whenever, in studying the pathology of cutaneous diseases, you find this term "neurosis" held up in explanation of their origin, you may generally regard it merely as a fashionable word signifying utter ignorance.

But the most common example of such hypertrophy of pigment is that local form which is commonly called moth, the *chloasma uterinum* of Hebra. As its name implies, its favorite seat is upon the face of the female sex. It generally begins to show itself upon the forehead, just below the edge of the hair, with a sharply defined arched outline above, while below the discoloration encroaches upon the skin in an irregular manner, the intensity of coloring also diminishing towards the lower and central portions. The stain may cover the whole forehead, and it tends to spread downwards laterally upon the temples and beneath the eyes, or directly downwards upon the nose. In extensive cases the mouth, too, is often encircled. The tint varies from a light buff to the darkest brown, changing from time to time in intensity, and appearing lighter on days when the patient feels strong, darker when depressed or during the menstrual period, according to the freshness and amount of blood in the underlying cutaneous tissues. Always chronic, it advances and recedes at intervals without any regular law of development that can be ascertained. The surface of these patches is always smooth and normal. We know very little of the predisposing causes of *chloasma*. It occurs most frequently in women between the age of twenty and the cessation of menstruation, and in those who suffer from derangement of the sexual functions, or who are anæmic or debilitated from other causes. It does, however, affect women who are apparently healthy in all respects, and rarely the faces of men. Although so often apparently dependent upon functional disturbances, when once developed it is slow to disappear, even when the health of the patient is fully restored. It may, on the other hand, vanish spontaneously. It may not be unnecessary to add that in spite of one of its popular titles it is not connected with the liver.

*Treatment.* But how should we treat the three cases first cited as illustrating the most important types of *melanoderma*? We have in all of them, lying in the very deepest layers of the epidermis, an excess-



ive amount of the natural pigment matter: in one patient scattered over the face alone in the form of small spots, in another distributed in large uniform patches over the same part, in the third widely diffused over large tracts of the surface of the body. The problem is the same in all of them, — the freckles, the chloasma, the general melasma: How shall we make it disappear? We cannot destroy it, for, as we have seen, it is indestructible, except by chemical agents so powerful that they could not be used upon the skin. We cannot cause it to be directly reabsorbed by any external means within our knowledge, although capable of spontaneous involution. We are able to influence its existence to a very slight extent only by internal remedies when its presence is dependent upon conditions of debility, misery, etc., which are themselves in some measure under such control. Can anything, then, be done to cause its removal? You will see numerous remedies advertised in the public prints and by irregular practitioners for the cure of freckles and moth patches, some of them widely known and extensively sold for this purpose. Such remedies do not usually attain so great popularity without some element of positive activity, but their measure of real virtue need not be large to insure a commercial success. They hit now and then just the class of cases in which they or almost any remedy cannot fail to benefit, and this is enough to outweigh the countless unknown failures and to perpetuate their reputation. The preparations of this sort ordinarily used in these affections have been taken from our own therapeutics.

We know that the cells of the rete formed by the papillary layer of the corium become in time the flattened horny cells of the outer cuticle, and are cast off in the natural and imperceptible process of desquamation. We know that those which contain the normal pigment share the same fate, and are being constantly reproduced. It is evident, therefore, that if we should remove the epidermis down to the corium by any means we should remove also the coloring matter. Now this may be done by the application of any irritant powerful enough to cause a separation by the process of inflammation of the two layers of the skin. This separation, the result of the effusion of serum in considerable quantity from and above the surface of the papillæ, we call vesication. It may be brought about by the use of so-called blisters, or by strong solutions of corrosive sublimate, etc. If we should raise such a blister over one of these patches of chloasma upon the young woman's face, we should see after the protecting crust had fallen that we had a new epidermis, red to be sure, but free from perceptible pigment matter. Erelong, however, we should probably find the pigment cells forming again in excess, and the part gradually reassuming its dark tint. Such violent measures, therefore, are not warranted by permanency of results, even if patients would submit to the suffering and considerable

temporary disfigurement inseparable from their action. What we can hope to accomplish must be by the more or less constant application of such agents as will so hasten the natural process of desquamation that the pigment cells shall not have time to accumulate in sufficient amount to produce perceptible staining, and yet not cause enough local excitement to prevent daily use or attract observation to the part. The immediate local action should not exceed a slight roughening or scaliness; it should not be allowed to provoke redness or papulation. A considerable number of substances have the power of thus expediting the formation and discharge of epidermal cells by their action upon the surface of the skin. Among them are borax, sulphur, bismuth nitrate, alkalies, acetic and citric acids, etc. They may all be made to gradually lighten up these over-pigmented portions of integument by frequent and long-continued application. For the milder forms of melanoderma they will in variable measure be found of service. For our cases of freckling, for instance, we may apply at night any of the following formulæ, taking care that they are used cautiously until the susceptibility of the individual skin is properly tested. As freckles are generally much more pronounced at one season than another, the remedies need not be used so continuously as in the other varieties.

R̄	Hydrarg. am. chlor.,	
	Bismuth. magist. . . . .	āā 3 ij.
	Amyli,	
	Glycerin . . . . .	āā 3 ss. M.
R̄	Acid. citric. . . . .	3 i.
	Aquæ . . . . .	3 iv. M.
R̄	Ammon. muriat. . . . .	3 ss.
	Aq. colonien. . . . .	3 i.
	Aquæ . . . . .	3 viij. M.
R̄	Zinc. sulph. . . . .	3 i.
	Ung. ros. . . . .	3 i. M.
R̄	Hydrarg. bichlor. . . . .	gr. vi.
	Acid. mur. dil. . . . .	3 i.
	Aquæ . . . . .	3 iv.
	Alcohol,	
	Aq. ros. . . . .	āā 3 ij.
	Glycerin . . . . .	3 i. M.

These should be applied over night, and the skin should be thoroughly washed with soap in the morning. They must be used at least for weeks in succession, and resumed whenever required.

For chloasma, the form exhibited upon the face of this woman, a large number of preparations of these and other substances have also been advised, but there is one which surpasses all others in efficacy, one which I always use, — corrosive sublimate in solution. Its action can be most accurately regulated by adjusting the strength of the solution



to the susceptibility of the skin in each case. Alcohol is a better solvent than water, because, as it evaporates more quickly, the solution is not so likely to run down upon the contiguous parts; and, as the patches are often abruptly defined, this is of some importance. A solution of four grains to the ounce is usually well borne, and will be found to be the best working strength. It is to be painted with a small camel's-hair brush over the pigmented patches at bedtime, a single application only the first two or three nights. Afterwards, if not too stimulating, a second or even a third painting at intervals of a few minutes may be tried, and will generally be well borne. Occasionally a skin will be met with that will bear a repetition of this process in the morning even. Our limit of immediate action should be, as already stated, a roughening of the surface from devitalization of the external layers of epidermal cells. Excessive stimulation will be shown by a reddening of the parts, persistent through the day, an increasing sensitiveness during the application, or even a papular eczematous efflorescence upon the part. Should such results occasionally follow, the remedy is to be suspended until the overaction subsides. Every morning the parts should be washed with soap and water, and, if the skin will bear the additional stimulation, pumice soap may be used with advantage upon a coarse bit of linen for the removal of the dead scales. By these means constantly employed we notice, as weeks go on, that the dark patches become lighter and lighter, and finally, in periods varying greatly in individual cases, not always in direct proportion to the intensity of coloring, assume the normal hue of the surrounding skin. In some cases, however, we do not succeed in causing the discolorations to wholly disappear, but must remain content with a great reduction in the discoloration. These results, moreover, are made permanent only by the continued use of the remedies as long as the pigment cells show a tendency to excessive reproduction. You may be asked, Is it safe to employ for long periods so strong a solution of a soluble salt of mercury? is there not danger of absorption to a serious amount? You may safely answer in the negative. An ounce of the preparation applied in this way over the ordinary moth patches upon the face will last a long time, and can be absorbed only in infinitesimally small amount. In general melasma its use might indeed be unsafe.

In all the diffused forms of melanoderma, as in the third case cited, local treatment, excepting upon parts exposed to view, is always impracticable, and internal medication only indirectly of benefit.

## A CASE OF VICARIOUS MENSTRUATION.

BY GEORGE E. PUTNEY, M. D.,

*First Assistant Physician in the State Almshouse, Tewksbury, Mass.*

THE patient is a laundress ; she was born in New Hampshire, is twenty-four years old, and single. Her catamenia began at nine, were characterized by moderate molimina, considerable flow, recurred regularly every four weeks, and continued three days.

During the summers of 1874 and 1875 it was her custom to spend about one hour daily in a public bath, regardless of her catamenia. One day after the usual bath her menstrual flow suddenly and prematurely ceased ; at the same time she was attacked with vertigo, distressing pains in the stomach and bowels, and palpitation of the heart. These symptoms, however, soon passed away. In four weeks she began to have lassitude, an inordinate craving for food, lancinating pains throughout the abdomen, with more or less tormina, followed by a sense of fullness of the stomach, pains extending from the temples to the vertex, foetid breath, bad taste, and nausea. The latter symptom was quickly followed by her vomiting about a pint of dark grumous blood and ingesta. After the vomiting there was considerable prostration and febrile movement, which with the earlier symptoms gradually abated, and in three days left her "as well as ever." For two years these attacks of hæmatemesis continued to recur about the last of every month, preceded and followed by substantially the same train of symptoms that characterized the first. There was generally a slight amount of dysuria, which, however, disappeared with the other symptoms. The alvine dejections were normal, so far as could be ascertained.

There were no known hereditary tendencies to disease, neither had the patient ever been seriously ill. When first seen by the reporter, she complained of fleeting pains in the chest, poor appetite, and malaise, but her general appearance was good.

An examination of the heart revealed nothing remarkable ; neither did percussion nor auscultation of the chest elicit any but normal sounds.

There was no tumor or undue tenderness detected in the epigastrium.

The patient was given tonic treatment, and soon after left the institution, but returned a few weeks since, and now reports that seven months ago, while taking wine and iron, her catamenia returned, and have since recurred regularly, unaccompanied by any abnormal symptom. A physical examination resulted as before. She is in excellent health, and weighs thirty pounds more than she did one year ago.



## JULIUS CASSERIUS.

BY D. HUNT, JR., M. D.

THE recent anniversary of the birth of Harvey has called forth a noble plea for experimental investigation which it is to be hoped will be read by every physician. I refer to the article entitled William Harvey which Huxley has published in the *Fortnightly Review*, and which was reprinted in the March supplement of *The Popular Science Monthly*. Harvey's claims to the gratitude of mankind, and particularly to that of our profession, are admirably displayed, and the lesson which his life teaches is so forcibly demonstrated that it acquires almost a new value. It lessens our pride to think that our manner of studying medicine contains so little of this experimental method which Huxley thinks has done so much for the world; to think that it even furnishes so little of the culture necessary to fit us for the exercise of this method in the long years of waiting that must elapse between graduation and a full practice. Still it may be wholesome for us to reflect that our "practical" standard is a very low one, and that, without dreaming or sentimentalizing over an ideal, the world offers us models of a much better application of these experimental methods than any which our wisdom has led us to imitate. An immediate corollary of this thought is that new buildings and longer courses of study are not of so much importance to us as a thorough and radical overturning of the system that crowds our students with lectures to such an extent that they have no time for the essentials of medical education. More than this, the article itself is a practical illustration of the value of medical history. Times change, but human nature is much the same as Shakespeare found it; Harveys and Riols, Asselins and Helmonts still exist, and history can only show us to what extent these different types of men may bless or curse our science. It seems that there were, as there now are, three types of men, as far as their manner of working is concerned. In Harvey we see the patient seeker for truth, — patient in the consciousness of working for the future; in Riols we can see the busy, selfish worker, with just enough of "distant vision" to be concerned for his epitaph; while in the hosts of the "practical" men of their day we see the throngs who are busied with the present. History alone can teach us to honor and imitate the one class while it enables us to assign a just value to the others; more than this, it alone may give us the clews that we need in shaping our policy in educational matters, — a policy the results of which will reach far into the future. History may also serve the ends of justice in adjusting the confusion and mistakes of one period in the clearer light which time sheds upon events that have long since happened. It is this latter function of history to which, incited by the ref-

erence to Spigelius in the article by Huxley, I would devote a few lines concerning Julius Casserius Placentinus, a name that has received too little honor in the annals of medicine. Chance has left his fame in a great measure to a department of medical history that has been relatively but slightly cultivated. I refer to the bibliographical and artistic branches. This has happened as follows: When Fabricius ab Aquapendente, the professor of anatomy and surgery in Padua, vacated his chair in the university he was succeeded by his pupil and most illustrious rival, Casserius, who had long been engaged in the attempt to produce an anatomy worthy of his age. To accomplish this purpose Casserius had engaged the services of Fialetti, a pupil of Cremonini and Tintoretto, as draughtsman, and Franciscus Vallesius, one of the best engravers of the age, to furnish plates for the work. Unfortunately, Casserius died before the text was ready, and Spigelius, who succeeded to the chair, was soon by the same fate prevented from completing his labors, yet not until he had enriched medical literature by several important contributions. Spigelius made Daniel Bucerius (Rindfleisch) his literary executor, and particularly enjoined upon him the publication of his anatomy in ten books. During the time that Bucerius was employed in preparing these labors of Spigelius for publication he came into possession of the plates of Casserius, and in the same year that he published the anatomy of Spigelius (1627) he published them with explanatory notes, but without text. The two works were, however, so arranged that they complemented each other, and they were soon united.<sup>1</sup>

This union was rather injurious to the reputation of Casserius, for the plates and their history were nearly forgotten, and although the name of Casserius was generally mentioned in connection with them, they were commonly regarded as parts of the works of Spigelius. There can be no doubt that they represent the second great epoch in the history of modern anatomy, counting the work of Vesalius as marking the beginning of its history. Sprengel cites as an instance of their value that they represent the so-called aqueduct of Sylvius, and in the seventh plate (page 90, first edition) this structure is shown and thus plainly described in the explanatory text: "*Q. Q. Nates divisi, ut ductus, qui sub ipsis latebat, conspiceretur. R. Ductus posterior tertii ventriculi in quantum tendens, apertus.*"

The same irreverence that was attached to merely pictured facts may have actuated Johannes Browne when, in 1683, he published his anatomy with thirty or more plates copied from those of Casserius.

<sup>1</sup> I have not seen a copy of one of the 1627 editions so united; I state the fact upon the authority of Möhsen (*Verzeichniss einer Sammlung von Bildnissen grössentheils berühmter Aertze*. Berlin. 1771.) My own editions are: first, the first edition of 1627, with the title-page which distinguishes it; second, the edition of Casserius and Spigelius, published by Vander Linden, 1645, which contains Harvey's account of the discovery of the circulation and Asselli's description of the lymphatics; third, a German edition of the plates of Casserius published at Frankfort in 1656 (small quarto).



But it was not my intention to do more than call attention to the fact that when we speak of the works of Spigelius we almost always include the plates of Casserius without thinking that the author of the plates probably deserves more honor than the worthy author of the text. Justice requires that these facts, upon which medical history is usually silent, should be remembered, and that we should not permit the name and merits of one of the greatest anatomists to be buried in the works of an author who, judging from his life, would have been the first to have protested against the injustice.

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## RECENT PROGRESS IN PHYSIOLOGY.<sup>1</sup>

BY H. P. BOWDITCH, M. D.

### MUSCULAR CONTRACTION.

VOLUNTARY muscular contractions have generally been regarded by physiologists as resulting from the fusion of a rapid series of muscular twitches,<sup>2</sup> such as are caused by a single induction shock applied to a motor nerve or to a muscle. A strong argument in favor of this view in the minds of the earlier physiologists was the fact that they were unable to produce artificially a persistent tetanus resembling a voluntary contraction in any way except by a series of irritations following each other in rapid succession. In accordance with this theory the trembling of the muscles resulting from age, disease, or exhaustion was considered to be due to the impulses from the central nervous system following each other with a rapidity insufficient to produce a complete fusion of the separate muscular twitches.<sup>3</sup>

Du Bois-Reymond's<sup>4</sup> investigations into the electrical phenomena of nerves and muscles lent force to this theory; for he was able to show that a "negative variation" of the normal muscle current is a necessary concomitant of muscular activity, that it is sufficiently intense to act as an irritant to a nerve placed upon the surface of the muscle, and that a nerve thus irritated produces in the muscle belonging to it a condition of contraction corresponding to that of the primary muscle. Thus, if the primary muscle is caused to twitch by a single induction shock applied to its nerve, the second muscle will also twitch in consequence of the irritation of its nerve by the "negative variation" of the first muscle; and if a rapid series of induction shocks causes the first muscle to contract tetanically, the secondary contraction will also be tetanic in

<sup>1</sup> Concluded from page 598.

<sup>2</sup> This word is used as the English equivalent of the German *zuckung* or the French *secousse*.

<sup>3</sup> See Ed. Weber in Wagner's *Handwörterbuch der Physiologie*, iii. Bd., ii. Abth., s. 12.

<sup>4</sup> *Untersuchungen über thierische Electricität*.

character. Du Bois-Reymond, therefore, concludes that *all contractions*, however uniform they may appear, may very likely be discontinuous in character, and, like the tetanus caused by the interrupted current, be composed of a rapid series of instantaneous effects.

The observations of Helmholtz on the sounds produced in muscular contraction have, however, commonly been regarded as furnishing the strongest support for the theory that voluntary contractions are a fused series of twitches. This observer<sup>1</sup> found that when human or rabbit muscles are tetanized by an induction apparatus they produce an audible sound of a pitch corresponding to the rate of the stimulation, and, since voluntary muscular contraction is accompanied by a sound corresponding in pitch to thirty-six to forty vibrations in a second, he concluded that this natural tetanus is the result of periodic innervation. When he allowed the vibrations of muscles in natural tetanus to be communicated to steel springs or strips of paper whose rate of vibration could be varied by alterations in their length, he found that these vibrating bodies responded best to the movement of the muscles when they were so adjusted as to vibrate eighteen to twenty times in a second. Helmholtz, therefore, concluded that the sound of natural tetanus is the octave or first harmonic of the tone produced by the vibration of the muscle, the latter lying below the limit of audible tones. In a subsequent communication,<sup>2</sup> however, Helmholtz, after giving the result of his researches into the mechanism of hearing, states that the tone of natural tetanus can be raised about one note by an increased tension of the membrana tympani caused by rarefaction of the air in the tympanum of the observer, that it can be lowered and enfeebled by compressing the air in that cavity, and that the same tone can be produced by a gentle stream of air directed against the external auditory meatus. He therefore concludes that "the muscle sound is a resonance tone of the membrana tympani produced by the irregular vibrations of the muscles." How far this conclusion is to be regarded as inconsistent with his former assumption of muscular vibrations following each other with tolerable regularity at the rate of about nineteen in a second the author does not state.

In apparent opposition to the commonly received theory of the composite nature of a tetanic contraction is the fact, unknown to the earlier writers on this subject, that, while the effect of passing a continued current of electricity through a motor nerve is usually merely to cause muscular twitches at the beginning and end of its application, yet, under certain circumstances, either the opening or closing of the electrical circuit may be followed by a more or less prolonged tetanus. Whatever view may be taken of the causation of this so-called "opening" or

<sup>1</sup> Verhandlungen des naturhistorisch-medicinischen Vereins zu Heidelberg, iv. 88, 1866.

<sup>2</sup> Verhandlungen des naturhistorisch-medicinischen Vereins zu Heidelberg, iv. 161, 1867.



“closing tetanus,” it is evident that an intermittent irritation of the nerve can play no part therein.

In the hope of throwing light upon the question whether this apparently uniform tetanic contraction is really intermittent in its nature, experiments were undertaken by Friedrich, and reported by Hering in an article<sup>1</sup> from which many of the above references have been taken.

The method of research adopted was that of the above-described secondary contraction of Du Bois-Reymond. The author found in several hundred experiments that the “closing tetanus” was far more effective than the “opening tetanus” as a stimulus to a nerve lying on the muscle thus tetanized, and the secondary contraction was invariably a single twitch coinciding with the beginning of the primary tetanus. A secondary tetanus was never observed. The author does not, however, conclude from this result that the primary tetanus is not intermittent in its character. He points out that a tetanus produced by intermittent activity of the muscular fibres can give rise to a secondary tetanus only when the phases of activity of all the muscular fibres are synchronous, for only under these circumstances can the negative variation of the separate fibres cause a negative variation of the muscle current as a whole, and it is this variation of the total muscle current which irritates the nerve of the secondary muscle.

Although these experiments have not, therefore, decided the question whether the “opening” and “closing tetanus” are intermittent in their character or not, they are valuable as throwing light on the relation between the muscular contraction and the negative variation, for it was repeatedly found that a secondary twitch occurred while the primary muscle was apparently in perfect repose; for example, at the closing of a strong ascending current in the nerve of the primary muscle. From these results Friedrich draws the conclusion that sudden variations in the muscle current may occur unaccompanied by noticeable contractions. It seems, therefore, doubtful whether the negative variation can be regarded as such an inseparable concomitant of nervous and muscular action as was supposed by Bernstein in his theory of nerve and muscle activity.<sup>2</sup> Friedrich also applied the same method of research to the tetanus produced by strychnia, and found that when the primary tetanus was irregular and spasmodic the secondary muscle executed a series of twitches; but that a uniform primary tetanus was accompanied, at its commencement only, by a single secondary twitch.

As early as 1862 Harless<sup>3</sup> noticed that voluntary or reflex contractions of frogs’ muscles caused only a secondary twitch at the beginning of the movement, never a secondary tetanus. Even the violent tetanic

<sup>1</sup> Wiener Sitzungsberichte, lxxii., iii. Abth., December 30, 1875.

<sup>2</sup> See the JOURNAL, January 15, 1874.

<sup>3</sup> Zeitschrift für rationelle Medicin, iii., Reihe xiv. 110.

contractions brought about by irritation of the spinal cord caused frequently only a secondary twitch, though much feebler contractions produced by direct irritation of a nerve trunk occasioned always a secondary tetanus.

From all these considerations it is evident that the theory of the composite nature of voluntary muscular contraction rests on a much less secure foundation than has generally been assumed by physiologists. In fact, if the muscular sound is to be regarded as merely a resonance tone of the ear, the evidence in favor of rhythmical muscular vibrations in voluntary contraction is reduced to the above-mentioned briefly recorded experiments of Helmholtz, with steel springs and strips of paper. On the other hand, there is in these researches nothing inconsistent with the assumption (for which the phenomena of artificial tetanus afford an analogy) that vibrations of this sort really occur.

Morat and Toussaint<sup>1</sup> have also investigated the electrical condition of contracting muscle by means of the secondary contraction. They find (as previously observed by Harless) that voluntary contractions produce a secondary twitch, and not a secondary tetanus. They also confirm the above-mentioned observations of Friedrich on the electrical condition of a muscle in "closing tetanus." They do not, however, doubt the existence of rhythmical muscular vibrations in voluntary contraction, for they find, in studying the secondary contractions produced by artificial tetanus, that a gradual increase in the rapidity of the stimulations which give rise to the primary tetanus causes the secondary tetanus to become shorter and shorter, till it is finally reduced to a twitch at the beginning of the primary tetanus. A similar effect is also produced by the gradual exhaustion of the primary muscle, the rate of stimulation being constant. The authors, therefore, conclude that the disappearance of the secondary tetanus is due to the more perfect fusion of the twitches composing the primary tetanus (this being an effect both of increased rapidity of stimulation and of muscular exhaustion), and that the reason why a voluntary contraction produces only a secondary twitch is to be found not in the absence of rhythmical vibrations, but in the complete fusion of these vibrations into one another. If this view be correct, it must be assumed that exhaustion causes a lowering and a prolongation of the wave of negative variation corresponding to similar effects in the wave of muscular contraction.

An interesting result of these researches is to throw doubt upon a conclusion, which has been generally accepted by physiologists, in regard to the nature of the cardiac contraction. From the fact that a frog's muscle, of which the nerve is laid upon the contracting heart of a dog or rabbit, produces a twitch and not a tetanus, it has been commonly assumed that the cardiac systole must be also a twitch. This

<sup>1</sup> Archives de Physiologie, 1877, page 156.



assumption is of course no longer tenable in view of the above-mentioned observations, showing that under various circumstances tetanic contractions give rise to secondary twitches. At the same time the prolonged character of the cardiac contraction cannot be regarded as a proof of its tetanic nature. In fact, as Hering well observes, "it is impossible, at present, to draw a sharp distinction between the twitch and the tetanus, for the prolonged twitch forms the transition between the momentary twitch and the condition of tetanic contraction."

C. S. Minot<sup>1</sup> has investigated the effect of exhaustion on tetanic muscular contractions. By means of a suitably arranged and complicated apparatus he sent through the gastrocnemius muscle of the frog a known number of secondary induction shocks per second, so as to produce every half minute a tetanus of four seconds' duration followed by twenty-six seconds' repose. This succession of short tetanic contractions was recorded upon a revolving cylinder in a series of curves, from which the conclusions were drawn. Minot found the height of the contractions to increase at first, although the stimulus remained constant, and, knowing that Kronecker, Tiegel, Rossbach, and others had observed in certain cases a similar increase, he concludes that it is a constant phenomenon when the muscle is fresh. In other words, it may be stated that the irritability of the fresh muscle is increased by irritation.

Muscles are also found to be by no means perfectly elastic bodies. On the contrary, when their form is altered they do not return to their original length unless under the influence of some external force. When they contract they do not elongate completely unless some load stretches them out. Hence when the load is light (in the case of the gastrocnemius muscle of the frog less than twenty grammes) after each tetanus there remains a well-marked permanent shortening, which increases with each contraction until a certain maximum is reached. If the load be sufficiently increased, the muscle lengthens out between each two contractions. In the body it must be supposed that the action of antagonistic muscles performs the part of the load. Hence it is that when, as in some cases of paralysis, these fail the sound muscles contract and remain permanently shortened. The rate at which a muscle lengthens out after contraction diminishes as exhaustion progresses. Therefore in ordinary artificial tetanus, produced by a moderately rapid stimulation, the single induction shocks cause at first each a distinct contraction, but as the lengthening out grows slower they fuse together. This prolongation of the descending portion of the curve of muscular contraction, which changes a succession of twitches into a tetanus, is regarded by the author as due to incomplete elasticity of the muscular tissue, to which property, therefore, a fundamental importance is attributed. Among the other subjects connected with muscular contrac-

<sup>1</sup> *Journal of Anatomy and Physiology*, xii., part ii., 297.

tion, which are discussed by the author, may be mentioned the observation that by putting a heavy weight on a muscle for a few seconds it is possible to produce a permanent elongation, which, however, may be obliterated by a contraction. In other words, the contraction and the stretching of a muscle are directly antagonistic processes. The effects of excessive work and of prolonged repose were also studied, especially in their bearing upon the exhaustion of muscles.

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## PROCEEDINGS OF THE NEW ENGLAND PSYCHOLOGICAL SOCIETY.

B. D. EASTMAN, M. D., SECRETARY.

At the meeting of the New England Psychological Society, held at Worcester, March 12th, Dr. Stearns, of the Hartford Retreat, read a paper on the Relations of Insanity to Civilization. He affirmed that insanity was unknown among the American Indians, and rare with natives of the Pacific islands before their civilization. It has also largely increased among the negroes of the South since the war. A higher ratio to the population exists in Europe and the United States than ever before. He did not regard civilization and insanity as cause and effect, but thought that certain conditions incident to the former tended to an increase of the latter. Of these causal conditions he mentioned imperfect and vicious education, sudden wealth, distaste for labor, loss of easily acquired property, lack of mental discipline, segregation in cities, ambition among a rural population to approximate the luxuries of city life, improper diet, too little sleep, and sensual excesses.

In speaking of the hurry and rush of our century, he said that it began at school, and produced hastily educated and inharmoniously developed graduates, unfitted to carry on the duties of life in a moderate, healthful, and successful manner; mental and physical degeneracy was the result. He stated that general paralysis was uncommon in certain agricultural districts in England until sudden prosperity brought the means of physical indulgence. The insane he regarded as the abortive blossoms and windfalls of society, and in no strict sense essential products of civilization.

DR. FISHER spoke of the growing tendency to crowd the professions. He had seen it stated that over a million and a half of persons were registered in England as professionals. In the United States there is one physician to every six hundred<sup>1</sup> of the population, while in Germany there is but one in three thousand. Statistics show that while the ratio of the insane to the whole population, in England and Wales, has continued to increase since 1859, the increase in 1875 was the lowest for many years, namely, one thousand one hundred and twenty-three, and hopes had arisen that the highest ratio had been reached.<sup>2</sup>

<sup>1</sup> See Introductory Address by Prof. Wm. Pepper, Philadelphia, 1877.

<sup>2</sup> The last report of the commissioners in lunacy shows that the increase in 1876 was the highest since 1869 namely, one thousand seven hundred and twenty. The general population augments at the rate of one and one half per cent., while the registered insane and idiotic increase at the rate of three per cent. — T. W. F.



DR. DRAPER remarked that one person in six hundred was insane or idiotic in the United States, — just the proportion of physicians to the population.

DR. SHEW said that statistics would show a larger proportion of insanity among the illiterate than among the educated. He thought that a symmetrical education prevented insanity, and that mental disease apparently from over-study was due in part to other causes; also that the increase of insanity among negroes was due to new responsibilities which they were unfitted suddenly to assume.

DR. BROWN remarked that many children have no childhood. Sons of farmers are ambitious to complete their education early and begin to get a living. In this country we try to accomplish at twenty one or two what in England would occupy the time till twenty-five, or even thirty. He thought the requirements at Harvard too exacting. While respecting the ambition of farmers to educate their children and advance their style of living, he was of the opinion that the rural as well as the civic population should go slower.

DR. LATHROP regarded the standard at Harvard as not too high considering the optional studies.

DR. EARLE said that he had been unable fully to account for the smaller ratio of insanity among brain workers. Dr. Tuke informed him that he was writing on the subject, and would be glad to get statistics from the United States. The first census in which account was taken of insanity in this country was in 1840. That census is very unreliable in respect to the negro insane, very few being returned from the slave States, while in New England insane negroes were purposely registered in large numbers from towns having no negroes at all.

DR. KNIGHT said that the insane slaves before the war were kept on the plantations from motives of economy. They have since become public charges, which accounts largely for the sudden access of insanity. Insanity has increased in Connecticut from seven hundred and fifty in 1864 to one thousand one hundred in 1877, with very little addition to the population.

DR. RUSSELL examined during the war the brains of eight hundred negroes. He found the average weight less by two and one half ounces than that of whites at the same age. He also observed that negroes seemed to be almost exempt from fatal cerebral disease.

DR. WALKER remarked that general paralysis, though well recognized twenty-five years ago, was then rarely seen in the Boston Lunatic Hospital. He thought it had increased largely, and that melancholia had also become extremely common, especially of late.

DR. EASTMAN considered parents more at fault than teachers in the matter of over-study.

At the evening session resolutions were passed referring to the death of Dr. Tyler, which have already been published in the JOURNAL.

DR. EASTMAN read a paper giving some statistics of eighty-one cases of general paralysis observed by him in the last five years.

ALTHAUS ON DISEASES OF THE NERVOUS SYSTEM.<sup>1</sup>

THERE is still plenty of room for good books, scientific and clinical, upon diseases of the nervous system, though we look with more anxiety at the announcement of comprehensive treatises than at that of monographs; for, so vast and so difficult is the subject that a man to be abreast of all departments of it needs to be not only a good pathologist and clinician, but a good metaphysician as well, combinations which are rarely met with.

In the same proportion, however, that good books upon this interesting and obscure subject are welcome, poor and indifferent books are unwelcome, and it is in the latter if not the former of these two classes that the volume before us is to be ranked.

The work is divisible, not anatomically, but, so to speak, physiologically, into two portions, one of which is a restatement of our knowledge with regard to the matters in hand, while the other contains original, mainly statistical observations.

The first portion is better in but few respects than other special English treatises on the same subjects, not to speak of those recently translated from the French and German, while it is inferior to them in many points. Brevity is obtained at the sacrifice of completeness and clearness, and simplicity at the sacrifice of accuracy. Nor do we find the other portion worthy of higher praise.

Imposing as is the number of cases — nearly a quarter of a million — which the writer culls from the annual reports of the registrar-general for England and Wales, the important inferences which he draws from them as to rates of increase and decrease in the frequency of deaths from various “nervous” diseases since the year 1838 appear to us nothing less than proved.

Even to-day, so far are we from having an adequate and intelligible system of classification of these diseases, such an inquiry would have to be conducted with the utmost circumspection, and its results would be at best of but doubtful value; and shall we look for better things from the pathological information of the average Welsh physician in 1838?

But the nomenclature adopted in that year may speak for itself. We have:—

(1.) *Cephalitis*, which, in spite of its derivation, is made to include inflammations of the spinal cord and its membranes. (2.) *Hydrocephalus* (thrown out). (3.) *Convulsions, spasms, or fits*. (4.) *Apoplexy*, which includes cases of *severe cerebral hyperæmia* and *cerebral hæmorrhage, sunstroke*, and *acute intoxication by opium, alcohol, and other narcotic poisons*. (5.) *Paralysis, palsy*, the *paralytic fit, hemiplegia*, and *paraplegia*, a heading under which all manner of chronic cerebral and spinal diseases of widely different pathology are indiscriminately grouped together. (6.) *Delirium tremens*. (7.) *Tetanus*. (8.) *Chorea*. (9.) *Epilepsy*. (10.) *Insanity*. (11.) *Disease*, a compartment for cases not otherwise classified.

<sup>1</sup> *Diseases of the Nervous System: Their Prevalence and their Pathology*. By JULIUS ALTHAUS, M. R. C. P., Senior Physician to the Hospital for Epilepsy and Paralysis, Regent's Park, etc., etc. New York: G. P. Putnam's Sons. 1878.



We obtain an indication of the amount of reliance to be placed on conclusions drawn from the examination of cases so classified when we read that the mortality from epilepsy (not "infantile spasms," which come under another head) is found to be very great in the first year of life, then to sink rapidly till the fourth year, between which and the fifth it mounts again abruptly. In 1874, of 213,799 deaths of infants under five years of age 26,534 were from "convulsions," a diagnosis as to the value of which as a basis for a scientific inquiry we may justly feel some question, especially when we find the next largest group, numbering 26,514 cases, set down as due to "atrophy and debility." We are also skeptical as to whether the gradual falling off in numbers of the "convulsions" mortality since 1838 is justly to be ascribed "to an advance in therapeutics," preferring to lay a part of it to an improvement in methods of classification.

In the chapters on eclampsia from lead poisoning we read that "lead, by its astringent effects on the blood-vessels, causes them to be constricted to such an extent that ultimately very little blood can pass through the cerebral arterioles," a theory which modern researches have long since disproved, or, to say the least, upon which they have thrown much doubt; and the whole range of questions in cerebral and spinal pathology are dealt with equally summarily and inexactly.

Meynert's "ganglia of the pes pedunculi" are made to include the cortex cerebri. "Inflammation of the middle portion of the dorsal cord" is said to be "also dangerous, the spinal canal being very narrow in that locality, owing to which the cord is more easily disorganized in its entirety."

A bit of light is let in upon the true value of the statistical evidence with regard to the mortality from insanity by the following sentence: "It will be seen that the deaths of all lunatics, as given by the commissioners in lunacy, do not at all correspond to the deaths from insanity recorded by the registrar-general, which is explained by the circumstance that in the former reports the deaths from the various forms of brain disease producing insanity are included."

Although the writer is by birth a foreigner, his English is generally excellent, though we think he might have found a better translation for *petit mal* than "the lesser evil."

It would, perhaps, not be difficult to pick out other points about the work which we could praise, but we do not feel called upon to do so, our undisguised object being to show that, as a whole, it fills no real gap upon our shelves, although it may occupy the place which, but for it, might later have been given to a better book.

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#### SMITH'S PRACTICAL GYNÆCOLOGY.<sup>1</sup>

WHILE we do not consider a book like this of Dr. Heywood Smith's promotive of scientific work in the department of gynæcology, it is certainly a condensation of much knowledge into little space, well classified and indexed, and is, perhaps, the best one of its size on this subject which has come to our

<sup>1</sup> *Practical Gynæcology: A Hand-Book of the Diseases of Women.* With Illustrations. By HEYWOOD SMITH, M. A., M. D. Oxon. Philadelphia: Lindsay and Blakiston. 1878.

notice. The mechanism of the book, if we may so designate its convenient form and orderly arrangement, should not blind us to the fact that as one of the Students' Guide Series it is out of place, since it is necessarily so incomplete and superficial as to be worth little more to the student than a mere index or schedule. The preparation and use of such books should, it seems to us, be deprecated rather than encouraged.

Its value, as the author implies in his preface, must be to the general practitioner, who, too crowded to go over a subject exhaustively, will often be assisted by it to eliminate certain factors of disease and reach a diagnosis sufficiently approximate, at least, to determine whether the case requires the wider experience of the specialist.

On some subordinate matters the author dwells largely in detail; on the most important he is often correspondingly meagre. Chapter I., on Means of Diagnosis, as a whole, is very deficient for so important a subject. Elaboration is attempted in one or two particulars, as, for example, the method of making a digital examination; though, from the minute detail which it seems to furnish, it is surprising that no mention is made of the proper preparation of the patient by the evacuation of the bladder and rectum, or of the bed or table on which such examination should be conducted. Contrary to the author, we must consider the dorsal position for digital examination much superior to that of the patient on the side. We are sure, too, that, for the more frequent examination of the interior of the uterus, the sound must give way to the probe passed through a speculum.

For granular inflammation of the lips of the uterus (page 73), Dr. Smith advises the use of potassa caustica, the actual cautery, or the solid nitrate of silver, treatment which is not only severe, but often productive of great harm. The cicatricial tissue which would follow the use of any one of these agents is pernicious in itself, and also tends to the occlusion of the os uteri, an injury which has frequently resulted from it.

In cases of utero-vesical fistula, the author would wait until the menopause, and then close the os uteri. We are surprised to find him content to rest here, and are sure that experienced gynæcologists, certainly those of this country, would be far from satisfied with his course of treatment. It has been our pleasure to see more than one such case cured without the delay recommended.

The portion of the book devoted to diseases of the uterus is particularly good for its conciseness and for the ease with which reference to it may be made. The references in Chapter II. to the effects of syphilis as a cause of uterine disease are also good. The directions for the safe employment of tents in dilating the uterine canal are excellent.

The illustrations are of little value. The heads and divisions throughout are clearly indicated. The author dedicates the book to his father, of whom he is rather eulogistic, though perhaps not to the extent of committing a breach of good taste. It is given to few of us to do original work; and if this book be not the product of ripe thought and personal experience, it at least comes from a man who, in the main, shows himself thoroughly conversant with the more recent advances in gynæcology.



ZIEMSSSEN'S CYCLOPÆDIA, VOLUME XVII.<sup>1</sup>

NEARLY three fourths of this volume is devoted to poisons, which are discussed by Boehm, Naunyn, and Von Boeck. It is needless to say that these papers contain a vast amount of information, and that they present few attractions to the general reader. Boehm's task includes the chapters on alcohol, chloroform, and ether, which probably will be thought of greater interest than most of the others. We are disappointed with the discussion of alcohol; disputed questions are too lightly passed over, and though the clinical aspects of alcoholic poisoning are fairly described, the chapter on the treatment of delirium tremens is unsatisfactory. It reads like the graduation thesis of a diligent but dull student. This author's treatment of chloroform and ether reminds us strikingly of Sir James Simpson's article on Anæsthesia, in the *Encyclopædia Britannica*, which consisted of the words "vide chloroform," with the difference that Boehm gives several wrong impressions solely from his profound ignorance. He is aware that many more deaths have been reported from the use of chloroform than of ether, but this he says "is not so much due to the greater safety of ether, but rather to the fact that whilst the use of ether has steadily diminished that of chloroform has as constantly increased." His whole discussion shows that, although he has gone through a certain amount of cramming, the author has little practical knowledge of chloroform, and none of ether.

Immermann contributes three papers on the disease of bleeders, that is, hæmophilia, scurvy, and purpura hæmorrhagica, respectively, which constitute the most readable part of the volume. We have to protest against the new word "spatial," used by Dr. Ball, of New York. He kindly explains it on its second appearance, and we learn that "spatial frequency" is for some unknown reason to be preferred to "geographical extension."

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CHEMICAL EXPERIMENTATION.<sup>2</sup>

As its title implies, this book is a description of experiments designed for the purpose of illustrating lectures upon inorganic chemistry, and of the apparatus necessary for their performance. The apparatus and frequently the method of performing the experiments are explained by numerous and excellent wood-cuts.

We know of no other work of the kind in the English language, and we have no doubt that this one will be received with favor by lecturers and teachers of chemistry on account of the large variety of experiments which has here been collected in a compact form. W.

<sup>1</sup> *Ziemssen's Cyclopædia*. Vol. XVII. General Anomalies of Nutrition and Poisons. New York: Wm. Wood & Co. 1878.

<sup>2</sup> *Chemical Experimentation*. Being a Handbook of Lecture Experiments in Inorganic Chemistry. By SAMUEL P. SADTLER, A. M., Ph. D., Assistant Professor of Chemistry in the University of Pennsylvania. Louisville: John P. Morton & Co. 1878.

## AMERICAN MEDICAL ASSOCIATION.

At the last meeting of the association, which was held in Chicago, Dr. T. G. Richardson, of Louisiana, was elected president, Dr. R. J. Dunglison treasurer, and Dr. William B. Atkinson permanent secretary. Buffalo was selected as the next place of meeting. The twenty-ninth annual session of the American Medical Association will therefore be held there this year, from June 4th to the 7th inclusive. A large attendance is looked for, and from the amount of deferred and new business already announced it is evident that the meeting will be one of more than usual interest. Dr. Thomas F. Rochester, of Buffalo, who is chairman of the committee of arrangements, has received reports from some of the presiding officers of the various sections, but the list is not sufficiently complete to definitely state the programme. We are authorized to say, however, that the papers will be unusually full and interesting. It was proposed last year to divide the surgical department, and add to the five existing sections one for ophthalmology, otology, and laryngology, which shall be known and designated as Section VI. The officers of the various sections, as now constituted, are as follows:—

Section I. Practice of Medicine, Materia Medica, and Physiology: Dr. A. L. Loomis, New York, chairman; Dr. J. H. Etheridge, Chicago, Ill., secretary. (Committee appointed to report to this section: On Clinical and Meteorological Records, Dr. N. S. Davis, Illinois, chairman.) Section II. Obstetrics and Diseases of Women and Children: Dr. E. W. Jenks, Detroit, Mich., chairman; Dr. H. O. Marcy, Cambridge, Mass., secretary. Section III. Surgery and Anatomy: Dr. Henry H. Smith, Philadelphia, Pa., chairman; Dr. E. T. Easley, Little Rock, Ark., secretary. Section IV. Medical Jurisprudence, Chemistry, and Psychology: Dr. Walter Kempster, Oshkosh, Wis., chairman; Dr. E. A. Hildreth, Wheeling, W. Va., secretary. Section V. State Medicine and Public Hygiene: Dr. J. L. Cabell, University of Virginia, chairman; Dr. E. J. Marsh, Paterson, N. J., secretary. The following committees are expected to report: On Prize Essays: Dr. E. M. Moore, Buffalo, N. Y., chairman. On Necrology: Dr. J. M. Toner, Washington, D. C., chairman. On Catalogue of National Library: Dr. H. C. Wood, Pa., chairman. On Recommendations in President Bowditch's Address: Dr. N. S. Davis, Illinois, chairman.

In regard to the recommendations of Dr. Bowditch, it may be said that they contemplate important changes in the present practice of the association in regard to the examination and general supervision of papers before presentation, in the fact of proposing a standing committee to procure scientific papers for the sections, and in the matter of permanent members and the restriction of representation. He also favored some method of stated conference with the Canada Medical Association. In a resolution which he subsequently offered at the last meeting were these important directions to the committee of publication:—

“First, to publish nothing but that which, after being read at the sections and approved by them, shall have been also submitted to the critical eye of experts, whose names shall be unknown, and whose decision shall be final in regard to the publication of any paper in our volume of transactions. Second, we should declare, as one rule for the guidance of said experts, that no paper should be deemed worthy of publication in our Transactions unless (a) it gives something new to medical science, or (b) unless it present an analysis or such a new or lucid arrangement of facts, already wholly or in part known, that the profession will be greatly aided thereby.”

Upon these points the committee, of which Dr. Davis is chairman, may be



expected to furnish a report embodying recommendations requiring and inviting discussion and the careful consideration of the association.

A number of amendments and changes in the by-laws have also been referred for action at this meeting. The amendment proposed by Dr. Samuel C. Busey, of Washington, one of the vice-presidents, involves some radical changes in the plan of organization, and in the membership of the sections. He proposes that permanent members of the association only shall be eligible to election in the sections, and that a list of the members of each section shall be published in the annual Transactions. A committee on essays, of three members in each section, shall examine and pass upon all the essays and debates. with full discretionary power, the committee on publication to print only what these committees respectively recommend.

The committee on nominations in 1877, Prof. S. D. Gross chairman, offered resolutions proposing that an essayist be made one of the annually elected officers of each section, who shall prepare and read in the general sessions of the association papers on subjects related to his particular branch of science.

The titles of the papers to be offered at the meeting in Buffalo will probably be presented in our next issue, but there is nothing to warrant the suspicion that the sections will be less well attended or their discussions less interesting than last year. On the contrary there is every promise of an unusually good session. The invitation extended to the association by the members of the profession in Buffalo was a most cordial one, and guarantees hospitable reception.

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#### DR. LOMBARD'S RESEARCHES.

WE are gratified to learn that Dr. J. S. Lombard, formerly assistant professor of physiology at Harvard, has undertaken some very extensive and minute researches on the temperature of the head, and that a part of the paper has already been communicated to the Royal Society of London by Dr. Bastian. The author proposes to himself:—

“(1.) To find out, as far as possible, the normal relative temperatures of different portions of the surface of the head when the brain is comparatively inactive.

“(2.) To study the effect of different mental states upon the different portions of the surface of the head previously examined in the condition of comparative cerebral inactivity.

“The *ultimate* objects were twofold, namely:—

“(1.) To furnish, if possible, some reliable data as a starting point for examining the temperature of the surface of the head, with a view to assisting in the diagnosis and localization of cerebral disease.

“(2.) To see if, from an examination of the relative temperatures of different portions of the surface of the head during increased mental activity, any information could be obtained as to the comparative importance of the parts played by different portions of the brain in the evolution of thought and the different emotions.”

With this object he divides each half of the head into an anterior, middle,

and posterior region, and subdivides these into smaller spaces. As yet he has published only his results in the anterior region of the two sides, the brain being inactive. He has made use of the heads of only six individuals, but he has made a vast number of observations, so as to be able to compare the temperature of each space with that of its neighbors and with that of its fellow on the opposite side. One cannot but be struck with the scope of the undertaking, which we hope will reach as successful a termination as the ingenuity and patience of Professor Lombard give us a right to expect.

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## MEDICAL NOTES.

— In his book on South Africa Mr. Trollope says that the air of Bloemfontein — the capital of the Orange Free State — “is in the highest degree fit for weak lungs,” but adds the remark: “It seems to the ignorant as though the doctors were ever seeking in increased distance that relief for their patients which they cannot find in increased skill.” “A hard saying, no doubt,” says the *Medical Times and Gazette*, “but worth thinking over.”

— Ovariectomy was performed for the first time in Europe by Dr. Gaetano Emiliani, of Faenza, in 1815. Dr. Ephraim McDowell, of Kentucky, did his first operation in 1809. In spite of repeated venesections and the loss of half a pound of blood during the operation, Emiliani's patient recovered, and within twelve months bore twins. One ovary had been removed, and this may be seen to-day in the museum of the Medico-Chirurgical Society of Bologna. Spencer Wells discovered this case in an Italian work, *L'Ippocratice di Forte* from which he translated it into English.

— From No. 39 of the *Gazette des Hôpitaux* the *Medical Times and Gazette* quotes the distressing case of a soldier, patient in the Military Hospital of Gros-Caillon, who exhibited symptoms of pericardial effusion with disease of the aortic valves, following four attacks of articular rheumatism. The dyspnoea led the surgeons to introduce a No. 1 Potain needle into the third interspace on the left side to a depth of 1.6 inches. No fluid appeared, and on leaving the needle free it oscillated synchronously with the beat of the heart, which had been punctured. The effect was instantaneous; the patient uttered a sharp cry, took one deep inspiration, and was dead. The pericardium was found to be much thickened and adherent to the heart at various points. The needle had passed over one of these and wounded the central organ.

— Dublin is suffering severely from a small-pox epidemic.

— In Hardwicke's Guide to European Universities, it is stated that at Würzburg two rejections either in the thesis or the *vivâ voce* examination are fatal to a candidate's hopes, and that in all Austrian universities three failures at any “*rigorosum*” disqualify a candidate from ever again presenting himself for examination. In Basle the faculty can decide how soon a candidate may again present himself. In Geneva every candidate is required to conduct an autopsy. In all universities except that at Heidelberg the theses must be printed at the writer's expense. At Heidelberg, however, only those who obtain first honors are *permitted* to print the essay.



— Among the delegates from Philadelphia who have announced their intention to attend the meeting of the American Medical Association are Professors S. D. Gross, John B. Biddle, Wm. Goodell, Wm. Pepper, Henry H. Smith, and Drs. Robt. Burns, N. L. Hatfield, Albert Fricke, H. Lenox Hodge, R. J. Dunglison, Thos. B. Andrews, T. M. Drysdale, J. Solis Cohen, John G. Packard, Albert H. Smith, J. Cheston Morris, M. O'Hara, W. R. D. Blackwood, L. Curtis, W. M. L. Richards, and Frank Woodbury.

— Professor Henry, of the Smithsonian Institute at Washington, is dead.

— Dr. Brown-Séquard is proposed as a successor to Claude Bernard in the chair of physiology in the College of France. He is, however, rendered ineligible by the fact that he is not a naturalized Frenchman.

— In the *Medical Examiner* we read that at a recent meeting of the French "Hospital Society" M. Proust showed the brain of a patient who, many years previously, had undergone amputation of a limb. The corresponding portion of the cerebral hemisphere exhibited a remarkable degree of atrophy.

— M. Guérin, senior surgeon to the Hôtel Dieu of Paris has recently been exhibiting the application of his cotton-wool dressing, by means of which he claims that wounds may be protected from the action of germs which float in the air. The cotton is supposed to act as a filterer of the air. M. Guérin put up a case at St. Bartholomew's Hospital, using five pounds of cotton-wool and over one hundred yards of bandage. In spite of this quantity of material it is affirmed by both English and French surgeons that Guérin's is not only very inferior to the Lister method, but that its results are much less perfect and reliable than those Guérin would claim for it.

— A sack of oats fell upon an English schoolmaster. He sued the proper parties for negligence and for damages on account of injuries received. In court Dr. Broadbent and Dr. Bastian swore that the injuries sustained by the plaintiff were the result of mechanical accident, and irremediable. On the other hand, Mr. Smith, of King's College Hospital, and Mr. Erichsen swore that the injuries were due, not to violence, but to organic brain disease, and that the plaintiff could recover from them within twelve months. A suggestive difference. The verdict awarded £1250 damages to plaintiff.

— Dr. Paul F. Mundé, of New York, was recently elected a corresponding fellow of the Edinburgh Obstetrical and of the Philadelphia Obstetrical societies.

— It has been reported that Professor Hueter has resigned his chair at Greifswald. This is denied by the *Deutsche med. Wochenschrift*.

— Dr. Robert Blessig, physician-in-chief to the eye hospital of St. Petersburg, and an ophthalmologist of renown, died on the 25th of March.

— Dr. Lederer, a naval surgeon, has made observations upon thirteen hundred individuals, and reaches the following conclusions: (1.) Color-blindness in its strictly scientific sense is a very rare occurrence. (2.) People who are not conversant with colors are rather numerous; this should be borne in mind in selecting men for important services with colored signals. It would be incorrect, however, to consider all such persons as subjects of color-blindness. Lederer has an extended paper on this subject in the *Wien. med. Wochenschrift* (Nos. 2 and 4, 1878).

— We would call attention to the advertisement of the prize committee of the alumni of the College of Physicians and Surgeons, New York. The committee has done well in recognizing the necessity of offering a large sum, — five hundred dollars, — but we think it is to be regretted that the prize is limited to the alumni of the college, and not thrown open, like our Boston prizes, to all comers.

— We have received a circular, issued by Surgeon-General Woodworth, of the Marine Hospital service, stating that medical officers of the Marine Hospital service will hereafter, for all official, medical, and pharmacal purposes, make use of the metric system of weights and measures. In expressing quantities by weight the terms “gramme” and “centigramme” only will be used, and in expressing quantities by measure the term “cubic centimetre.” The metric system has already, under the act of July 28, 1866, been adopted by this service for the purveying of medical supplies, and the weights and graduated measures, as well as the glassware, hereafter furnished the medical officers will be in accordance therewith.

Simple rules for the ready conversion of terms of the United States apothecaries’ weights and measures into their respective equivalents in metric terms are appended, which, for all medical and pharmacal purposes, are believed to afford sufficiently accurate results. Suggestions are also given as to the mode in which metric medical prescriptions might be constructed, and in relation to the preparation of requisitions for medical supplies in metric terms.

— A mutual aid association of the Philadelphia County Medical Society was lately organized at a meeting held at the hall of the College of Physicians. Professor Henry H. Smith presided. The chairman stated the proposed organization was to be a mutual aid association, designed for the purpose of relieving sick and destitute physicians, members of the Philadelphia County Medical Society, and to provide for the support of widows and orphans by the payment to them of annuities. He stated that a similar organization had been for a number of years in operation in New York, and that it was doing a good work in this direction; and a field, he thought, exists among us for such labor, especially at present, as he was cognizant of cases of real distress. A plan for such an association had been already matured by a committee appointed by the County Medical Society, and a draft, with the by-laws, etc., was submitted for approval. A large number of members of the parent association favorable to the new project were present. It was decided to organize immediately, and the following officers were elected for one year: President, Dr. Benjamin Lee. Vice-presidents, Dr. Albert Fricke, Dr. Wm. T. Taylor. Treasurer, Dr. Richard J. Duglison. Recording secretary, Dr. W. R. D. Blackwood. Corresponding secretary, Dr. Frank Woodbury. Trustees, Drs. Henry H. Smith, N. L. Hatfield, Robert Burns, Geo. Hamilton, M. O’Hara, Wm. B. Atkinson, J. Solis Cohen, Joseph G. Richardson, H. St. Clair Ash.

At the close of the meeting the names of twenty-seven subscribers were announced. The success of the organization is, it is thought, already assured by the unusual and unexpected interest that it has excited from the time of its first suggestion by Prof. Henry H. Smith, in his remarks in January last, upon the occasion of his reelection as president of the Philadelphia County Medical Society.



## MASSACHUSETTS GENERAL HOSPITAL.

## SURGICAL CASES OF DR. CABOT.

[REPORTED BY H. L. MORSE.]

*Foreign Body in the Trachea.* — H. E., a boy of seven years, while playing with a blow-gun on the 26th of last December, sucked down his throat one of the darts. Immediately afterward he had a severe paroxysm of coughing, followed by complete asphyxia for about half a minute; he then had several severe attacks of cough. Some hours after this he had another severe paroxysm. These recurred from time to time during the next few days, but not with sufficient severity to alarm his parents. The cough gradually increased, however, in frequency and duration, but there was little or no disturbance of his general health, and the child played about as if well. The patient entered the hospital on January 10, 1878.

Inspection and palpation of the throat and neck revealed nothing. The breathing was somewhat labored, calling into play to a certain extent the accessory respiratory muscles. There was also a high-pitched whistling sound, apparently situated in the trachea, but auscultation and percussion failed to define the exact position of the obstruction to the breathing. Examination by the laryngoscope showed that the foreign body was not lodged in the pharynx or larynx.

The patient was etherized, and an incision about two inches in length was made by Dr. Cabot in the median line of the neck, just below the cricoid cartilage, and the trachea was opened. A probe was next passed down the right bronchus about six inches, but met with no obstruction; the left bronchus was then explored, and the probe after passing down about five inches seemed to strike an obstacle; forceps of different shapes were then introduced, but failed to bring up the foreign body.

While stopping to give the patient some more ether, the dart suddenly shot upward past the incision with a forced expiration, and disappeared with inspiration; it appeared and disappeared again with the next inspiration and expiration. On the third expiration Dr. Cabot seized it with a pair of forceps, and removed it from the opening in the trachea. A tracheotomy tube was then inserted and retained about four hours. It was then taken out, as the child had fully recovered from the ether and could breathe well by the mouth. The patient's temperature in the evening of the day following the operation rose as high as 102° F., and there was labored respiration, cough, and profuse expectoration; but from that time the temperature and all the other symptoms improved, and he was discharged on January 22d with a small granulating surface on his neck, not communicating with the trachea, still unhealed, but otherwise he was entirely well.

*Three Cases of Excision of the Breast Treated Antiseptically.* — CASE I. A. C., a young girl twenty-one years of age, entered the hospital with a tumor as large as a turkey's egg in her right breast, the skin over which was adherent and ulcerated from the use of caustics. The tumor was of two years' standing, was movable over the subjacent tissue, and there were no enlarged glands in the axilla. The patient having been etherized, an elliptical incision

about six inches long was made by Dr. Cabot, and the whole of the mammary gland was dissected out. The operation was performed under carbolized spray, the vessels were secured with carbolized catgut, and a dressing applied according to Lister's system.

The temperature rose as high as  $102^{\circ}$  on the evening of the day following the operation; from this point it steadily fell. On the fourth day it was  $100^{\circ}$ , and never rose above that point again while the antiseptic dressings were applied. The dressings were changed six times during the first twenty-one days after the operation, and at the end of this time the antiseptic dressings were removed. Owing to its previous ulcerated condition a portion of the flap sloughed and healed by granulation.

Microscopical examination showed the tumor to be non-malignant in character.

CASE II. M. J. B., a woman forty-four years of age, reëntered the hospital on January 2, 1878, with a recurrent tumor of the left breast. Four days after her entrance the patient was etherized, an incision ten inches in length was made by Dr. Cabot under carbolized spray, and a tumor about the size of a hen's egg and a dozen glands and small tumors were dissected out from the axilla, and also the scar left by the first operation. The vessels were tied with catgut, and a drainage tube was put into the wound, which was then closed with carbolized gut sutures. A gauze dressing was applied according to Lister's method. The dressing was changed on the first and second days after the operation, and on the latter date the drainage tube was removed. The dressing was changed again on the sixth, seventh, thirteenth, and twenty-third days, and on the twenty-fourth day after the operation the patient was discharged, with the gauze dressing still on, the wound having entirely healed, except a small portion which was granulating healthily. The traumatic curve of the temperature in this case rose as high as  $102^{\circ}$  on the evenings of the first and third day after the operation, fell to the normal point on the fifth, and did not rise again until the seventeenth day, when it reached  $102.2^{\circ}$ , on account of a severe attack of tonsillitis.

CASE III. K. F. entered the hospital on January 17, 1878, with multiple chronic mammary tumors of both breasts. At the time of her entrance the mass in the left breast was the size of a small orange, and that in the right was a little larger.

The patient having been etherized, two incisions, each about two inches in length, were made by Dr. Cabot in the right breast, and a tumor a little larger than an English walnut was dissected out from each. A dressing towel wet with carbolic acid having been placed over the wound, three incisions were then made in the left breast, and six tumors of various sizes were removed. The bleeding vessels were secured by carbolized catgut ligatures, drainage tubes were put in, and the wounds closed with carbolized silk sutures.

The operation was performed under carbolized spray, and an antiseptic dressing covering both breasts and completely encircling the body was applied. The patient made a rapid recovery, the wounds in the right breast healing by first intention. The dressings were changed under carbolized spray on the second, eighth, and sixteenth days following the operation. On the twenty-second day the antiseptic dressings were removed, and the patient was dis-



charged, well, twenty-four days after the operation. The temperature rose to 102.2° on the evening of the day following the operation; it then fell to 100°, and did not rise again above that point. The sutures used in this case were of silk prepared with resin, wax, and carbolic acid, and were found to be much better than the carbolized catgut which is commonly used, as they were anti-septic, caused no irritation, and yet were not absorbed, as those of catgut often are, before the edges of the wound are united firmly enough to keep them from tearing apart again.

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### CONNECTICUT STATE BOARD OF HEALTH.

MR. EDITOR, — The act creating a State Board of Health was finally passed by both branches of the legislature, and having received the sanction of the governor has become a law. The provisions for active work and powers for sanitary investigations are ample and sufficient, and the appropriation of three thousand dollars all that was asked for by those who engineered the measure through the legislature. The secretary of the board is made superintendent of vital statistics, and the State furnishes a room for the meetings of the board and for the bureau of vital statistics thus created. The governor has appointed on the board Dr. J. S. Butler, of Hartford, for many years superintendent of the Retreat for the Insane in Hartford; A. E. Burr, editor of the *Hartford Times*; Prof. C. A. Lindsley, M. D., of the Yale Medical School; Prof. W. H. Brewer, of the Sheffield Scientific School; Dr. Robert Hubbard, of Bridgeport; and A. C. Lippitt, of New London. Three of the board are physicians, and three laymen, one of whom is a lawyer by the provisions of the act. The first meeting for organization was held April 9th, in Hartford. Dr. J. S. Butler was elected president, and Dr. C. W. Chamberlain, of Hartford, permanent secretary. The following committees were appointed: protection of buildings from the gases of decay, A. E. Burr, Professor Brewer; vital statistics, Professor Lindsley, Dr. Chamberlain; state preventive medicine, Dr. Butler; pollution of streams and water supply, Professor Brewer; sanitary legislation, A. C. Lippitt; epidemic, endemic, and contagious diseases, Drs. Hubbard and Chamberlain. The president and secretary were appointed a committee on by-laws and regulations, and plans were matured for securing regular correspondents throughout the State, and the active coöperation of the physicians and medical organizations. The medical profession in Connecticut have been working to secure this measure for many years, and it is to their energy and persistence that success is at last due. Especial credit is given to the committees of the Connecticut Medical Society, and to Dr. N. Mayer, of Hartford, who labored enthusiastically and efficiently for the passage of the bill while in the legislature. The nature and bearings of the measure were fully presented by the Hon. J. L. Houston, of Enfield, and its passage was accomplished by his intelligent and public-spirited advocacy. The State is somewhat late in wheeling into line, being the seventeenth to establish such organizations, following the lead of Massachusetts. The board commences under good auspices, and is backed by a favorable public sentiment, which is constantly growing stronger.

## COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending May 4, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean for ten Years, '68-77.
New York.	1,093,171	469	22.31	23.42	28.71
Philadelphia.	876,118	266	15.79	18.80	21.54
Brooklyn.	549,438	181	17.13	21.51	25.50
Chicago.	460,000	108	12.21	17.83	22.39
Boston.	375,476	144	19.94	20.10	24.34
Providence.	100,000	34	17.68	18.81	19.20
Lowell.	55,798	13	12.12	19.09	22.50
Worcester.	54,937	15	14.20	14.07	22.30
Cambridge.	53,547	16	15.53	18.69	20.83
Fall River.	53,207	16	15.64	21.35	24.96
Lynn.	35,528	8	11.71	20.42	19.67
Springfield.	33,981	6	9.19	16.04	19.77
Salem.	27,140	10	19.16	20.38	21.15

ESSEX SOUTH DISTRICT MEDICAL SOCIETY. — At the annual meeting held in Salem, April 30th, the following officers were elected: President, A. H. Johnson, of Salem. Vice-President, J. W. Goodell, of Lynn. Secretary, R. F. Dearborn, of Lynn. Treasurer, William Mack, of Salem. Librarian, P. P. Bielby, of Salem.

BOOKS AND PAMPHLETS RECEIVED. — Congenital Occlusion and Dilatation of Lymph Channels. By Samuel C. Busey, M. D. New York: William Wood & Co. 1878. Pp. 187.

Smithsonian Miscellaneous Collections. 316. Circular in Reference to American Archaeology. Smithsonian Institution, Washington, D. C. 1878.

Bibliothek for Læger. Dr. J. C. Lehmann. Copenhagen. 1877.

Carbolic Injections in the Treatment of Piles. By Prof. A. B. Cook, M. D. (From the American Medical Bi-Weekly.) Louisville. 1878.

Observations in Practice, Surgery, Gynæcology, and especially Obstetrics. By George B. Walker, M. D., Professor of Obstetrics in the Medical College of Evansville. Chicago. 1878.

Suggestions in the Treatment of Spinal Disease and Curvature. By E. H. Coover, M. D., Harrisburg, Pa.

Clinical Lecture on some Points in the Diagnosis and Treatment of Uterine Polypi. By William Goodell, M. D. Reported by Frank Woodbury, M. D., to the Obstetrical Journal of Great Britain and Ireland. American Supplement.

Two Lectures on Convulsions and Paralysis as Effects of Disease of the Base of the Brain. By Professor Brown-Séquard. Reported to the Philadelphia County Medical Society by Frank Woodbury, M. D.

Report of the Citizens' Committee upon the Nuisances of New York City. The Air we Breathe. New York. April, 1878.

Studies in Pathological Anatomy. By Francis Delafield, M. D., Adjunct Professor of Pathology and Practical Medicine, College of Physicians and Surgeons. No. 3. April, 1878. New York: William Wood & Co. 1878.

Objections to the Use of Carbolic Acid in the Treatment of Piles. By J. M. Mathews, M. D. (From the American Medical Bi-Weekly, April 27, 1878.)

Auto-Inoculation of Vegetable Parasites of the Skin, and the Clinical Testimony for their Identity or Non-Identity. By Edward Wigglesworth, M. D. (Archives of Dermatology.)

Faulty Innervation as a Factor in Skin Diseases. By Edward Wigglesworth, M. D. (The Hospital Gazette.)



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## LECTURES.

### A CLINICAL LECTURE ON CATHETERISM VERSUS URETHROTOMY.<sup>1</sup>

DELIVERED AT BELLEVUE HOSPITAL BY J. W. S. GOULEY, M. D.,

*Professor of Diseases of the Genito-Urinary System in the Medical Department of the University of the City of New York.*

GENTLEMEN, — Before alluding to the subject suggested by the case now before you, I shall make a physical examination of the patient, who has a stricture of the urethra. He is twenty-seven years of age, and says that it is ten years since he had the attack of gonorrhœa from which the stricture resulted. On attempting to pass a *bougie à boule* of rather large size, it is found arrested after it has been introduced for some distance into the urethra, and measurement shows that the point of obstruction is four and seven eighths inches within the meatus. The next attempt is made with a smaller instrument, number 4, which passes in for a distance of five and a quarter inches. This difference shows that there exists a long stricture, probably tortuous and eccentric in its character; and I will now proceed to tell you the way in which I deal with these narrow eccentric strictures about the sinus of the bulb.

Formerly such strictures, into which small flexible bougies could not be introduced, were regarded as impassable, and the surgeon usually resorted to external urethrotomy, more rarely to internal urethrotomy. The method employed was somewhat as follows: As it was impossible to dilate the stricture with the very small instruments that could be made to pass it, a bougie of minute calibre was inserted and tied in position for twelve, twenty-four, or even forty-eight hours. When the urine was observed to trickle alongside of it it was withdrawn, and a somewhat larger one was passed and secured in the same way. In this manner the stricture became sufficiently dilated in the course of three, four, or five days to admit of the introduction of a small urethrotome. When the stricture could not be passed by even such filiform bougies it was found necessary to perform external urethrotomy. Ure-

<sup>1</sup> Reported for the Boston Medical and Surgical Journal.

throtomy is not a very serious operation, and is not ordinarily attended by any great mortality. In well-selected cases the latter does not exceed five per cent., and in all cases, including both the favorable and unfavorable, it does not exceed twelve and a half per cent., in this country at least. It is, of course, a highly beneficial operation, but a mortality of even five per cent. shows that it is one which is attended with a certain amount of danger; and it would be a great boon if this danger could be avoided, and yet equally good results obtained in some other manner.

This I think has been afforded the profession in the method of catheterism which I devised about the year 1864, and it has certainly made a wonderful change in treatment, at least as far as concerns my own practice. Had it not fortunately occurred to me I should still be performing internal and external urethrotomy, and I am sure that during the last twelve years I should have resorted to one or the other operation in more than two hundred cases of stricture which have been successfully treated in this way. During that period I have used catheterism with the filiform whalebone conductor and tunneled sound in at least three hundred cases, and I do not hesitate to say that I think the time is not far distant when these cutting operations will be reserved for only the very worst cases, and consequently be but rarely done at all.

Now let me explain this method of catheterism. An essential point about it is the filamentous guide. This does not take oil or vaseline very well, and so I am in the habit of anointing the urethra instead. This is done by injecting oil into the canal, a procedure for which I do not claim any originality at all, as it was employed at least thirty-five years ago. It has the double advantage of distending as well as of lubricating the urethra. The filamentous whalebone bougie may either have a slight twist, as preferred by some, or be bent near the extremity, as suggested by Benjamin Bell. The first step in the operation is to introduce the guide as far as the point of stricture, and then the oil is to be injected into the urethra. This having been done, the guide is used as an explorer, with which the operator endeavors to find the orifice of the stricture (which, as I said, is usually eccentric), and so he carefully moves it to and fro and up and down until this is accomplished. It requires some little skill and experience to use the guide successfully. While you are endeavoring to find the orifice the end comes in contact with the sides of the canal, and also touches bottom, so to speak, at the point of stricture. Then, presently, you find that you do not touch bottom; but still you may not have gotten into the bladder. Instead of passing through the stricture, the end of the instrument may simply have entered the orifice of the duct of one of Cowper's glands. If this is the case you have only to withdraw it partially and try again,



and if you should a second time meet with an obstruction it may be that the guide has now slipped into an enlarged lacuna. The next obstruction may be caused by the utriculus if the point of the instrument is in the median line and directed below, or by the orifice of one of the ejaculatory ducts. Further on you may meet with yet another difficulty by getting it into an enlarged prostatic follicle, and then you may finally reach the bladder. All this shows that such catheterism is by no means simple or easy ; and I would have you understand that it is essential that it should be performed with the lightest possible hand and the greatest caution, for otherwise the urethra may be very seriously injured. Perhaps I ought to mention two additional causes of obstruction still, which may interfere with the passage of the guide, namely, the *lacuna magna* on the upper surface of the *fossa navicularis*, and the enlarged lacunæ in the ampulla behind the stricture.

Now let me endeavor to put these precepts into practice in the case before us. You observe that the oil gushes out in considerable quantities just after it has been injected into the urethra. This shows that the stricture is a very narrow one, and thus affords an important point in diagnosis. When I endeavor to pass the filamentous guide through the orifice of the stricture I at once meet with one of the obstructions to which I have called your attention ; but having withdrawn it for a short distance I make a second attempt, and now succeed in entering the bladder without any difficulty.

The next step is to introduce one of my tunneled sounds along the guide, and I do not dare to make use of a large instrument here for fear of doing injury. The one that I select is number 3, the point of which is about the size of number 1 of the ordinary sounds, and you observe how it is curved, and its characteristic feature the little canal ending in a groove into which the whalebone guide fits. The latter, of course, amounts to nothing as a means of treatment unless it is supplemented by the sound. With the tunneled sound there is little danger of doing any injury ; but if the attempt to dilate such strictures as these be made with ordinary sounds false routes will surely result. Now, supporting it with the left hand I pass it gently down into the urethra, and find it arrested at the point of stricture. With a little manipulation, however (while at the same time I pull upon the whalebone guide), the point of the sound enters the orifice, and the first step of the operation is accomplished. This instrument dilates the stricture a little, and so I now withdraw it, during the withdrawal holding on to the guide, so as to retain it in position.

The next step is to introduce a number 4 sound, which is done in the same way, and has the effect of dilating the stricture a little more. I now try a number 6. There is no blood as yet, but this sound is grasped very tightly indeed by the stricture. Next I introduce a num-

ber 7; but as I do not happen to have at hand a larger tunneled sound, I shall be obliged afterward to employ the ordinary ones. I therefore now try a number 7 sound of the common variety, which is a little larger at the point than the same number of the tunneled instruments; but you will observe that I still retain the guide in the urethra. It does not at first pass readily; but by coming round to the other side of the patient I find that I am enabled to slip it in quite easily. Not infrequently a slight change in the position of the operator is of great assistance in the passage of a sound or catheter.

The passage of a number 8 sound is attended with the first blood, and the hæmorrhage which you observe indicates that divulsion has taken place. This means that numerous rents have been made in the mucous membrane as well as in the submucous tissue at the point of stricture, and when divulsion has once occurred, the passage of large-sized sounds becomes easy. In these cases of long duration (and you will remember that in the present instance the stricture is of ten years' standing) divulsion is almost invariably produced by such catheterism as has been practiced here. You perceive that I can now pass a number 12 with the greatest facility, and that when I withdraw it I also remove the guide, which will no longer be of any service. Next a number 14 sound is introduced, and finally a number 16, which completes the sitting of to-day. Here we have had a fair operation of divulsion, and yet have not employed any divulsor proper. In this case it will be entirely unnecessary to enlarge the size of the meatus by cutting.

As I said before, I have now performed this catheterism in more than three hundred cases of stricture, at one, two, or three sittings, according to circumstances, in each. The total mortality (including all the worst cases) has been something like two per cent., and I should like to know if equally favorable results have been obtained by any other method. I attach very great importance to the passage of a large sound once a week, after the divulsion, for at least one year, and in many cases for an indefinite time. It is true that patients are very apt to have a chill after this operation, but it is rarely followed by any severe symptoms, and a good dose of quinine is all that they usually require. If this man were to remain in the hospital I should probably give him a few doses of three or four minims of Fleming's tincture of aconite in addition; but as he is an out-patient I shall let him go his way, and only ask him to return and let us see him this day week.

In the second case which I bring before you, divulsion was also practiced. At the first sitting I began with a number 2 sound, and before it was over succeeded in passing a number 16 with ease. It was followed by a chill, but he did not have any after the second sitting. To-day, just four weeks from the commencement of the treatment, I am



able to pass a number 18 sound, which is ten and a half millimetres in diameter. This patient has an unusually flabby urethra.

In the third case, which is that of an Italian pretty well advanced in life, I did not find it necessary to make use of the filamentous guide, though the stricture was a rather narrow one. I began with a number 3 sound here, and this is now the third sitting. The first sound that I use to-day is a number 12, and afterwards I pass a 14, 15, and 16 in succession. This is a very tough and indurated urethra; but I have here been enabled to obtain sufficient dilatation without practicing divulsion. The passage of these sounds, no doubt, occasions the man a considerable amount of pain, but I do not think he suffers much, or else he would be more demonstrative. Our first patient to-day, I think, suffered much more, but he bore it bravely. In the present case I enlarge the external orifice with a bistoury while the sound is still in the urethra. The man is doing very well.

The fourth patient is also an Italian, but a much younger man, as you perceive, than the last one. I began here also with a number 3 sound, and this is now the fourth sitting. He has had no chill since the first one, and to-day I commence with a number 15 instrument, which passes with the greatest ease. You observe that this patient has an unusually large penis, but it does not follow by any means that the urethra is also large in proportion. I regard that as altogether a fanciful idea, and do not believe that there is any relation whatever between the size of the penis and that of the urethra. In fact, I have frequently seen men in whom the penis was very small, and yet whose urethræ were extraordinarily large, and others again in which this relation was reversed.

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## A CASE OF FEIGNED INSANITY.<sup>1</sup>

BY WALTER CHANNING, M. D.

AUTHORITIES are agreed that it is harder to feign insanity than for experts to detect the imposture. There are, however, exceptions to this rule. Asylum physicians may be deceived, and where there is no ground to suspect simulating, malingerers may be admitted to asylums. Supposing that a man presents himself for admittance to an insane asylum, the certificates of physicians, the evidence of friends, and the *apparent* condition of the patient are all the data the physician has. On these the patient is admitted. The physician cannot say, "Well, I think the patient is insane from what you say, but I am not sure, and as I may be obliged to appear in court and show cause why the prisoner should be detained, I had rather observe him for a few days; therefore, if you will take rooms in the town I will visit him daily for a week or

<sup>1</sup> Read before the Suffolk District Medical Society, January 26, 1878.

more, and *then* if I find him insane I will admit him." That would be a chilling reception for a woman with a wild, violent, and raving husband, or a mother with a suicidal daughter. The very fact that a person's friends bring him to the asylum is the strongest presumptive evidence of his insanity; for who will feign to get *into* an asylum? This question may be answered by saying, No one without a motive; and usually only indicted criminals seeking to avoid punishment, and convicts wishing to leave the rigid and monotonous surroundings of a prison for the easier life of an asylum, will have such a motive.

The case which I am about very briefly to relate, though not difficult of diagnosis on a sufficient examination, was one possessing features calculated to make the impression of insanity on the public mind. All the medical witnesses for the defense were persons of only limited acquaintance with insanity. Had this case applied at an asylum with the certificates of two of these physicians and the testimony of friends, without doubt it would have been at once admitted.

During a connection of over two years with a criminal asylum I was led to study closely the characters of the criminal insane. The asylum being near the prison we occasionally received feigners, the law obliging us to admit all persons transferred to us; the number was, however, extremely small. The attempts at feigning were made on the prison physicians and other officials, who, generally having but a slight knowledge of insanity, were easily imposed upon. Such clumsy attempts were possible of detection at the asylum, and the subjects were in due course of time returned to prison as not insane. Several feigners of epilepsy were, among others, sent to us. These cases all required somewhat extended observation, as the insanity of criminals is often far below the surface, and much more difficult to discover and definitely fasten on than in ordinary cases.

It is doubtful whether William Barr, the subject of this sketch, feigned in the first place in order to be transferred to the asylum. In all prisons there is a class of incorrigibles who constantly chafe against discipline, and Barr was one of the worst of this kind. Becoming unmanageable in the prison he was sent to the asylum for the relief of the officials. The first we hear of him is at Clinton State Prison, at Dannemora, N. Y., to which he was sentenced in 1871 for ten years for highway robbery, and from which, after remaining nearly a year, he was transferred to the State Asylum for Insane Criminals at Auburn. Here he remained nearly two years, the last seven months of this period being under my observation. From the asylum he was sent to the Auburn State Prison, staying nearly six months, when he again entered the asylum, remaining nine days. He then returned to the prison again, where he stayed until some time after the homicide which he there committed. During this period he has a history of violence and



intractability, but all the very conflicting evidence given upon the trial furnishes no clear proof of insanity.

In February, 1877, Barr murdered a prison-keeper named Casler, who, it is stated, had borne an unusually good reputation as a keeper, and beyond reporting convicts for bad behavior had never had any trouble with them. The circumstances of the murder were substantially as follows : —

Barr was one of a gang of convicts shoveling snow off the sidewalk in front of the prison. The gang was in charge of Casler. Whenever a woman went by Barr would stop and smile at her ; he would also neglect his work and walk up and down the sidewalk. He began after a while to throw snow in the gutter, which the keeper told him not to do ; he talked to another convict, which the keeper also told him not to do ; finally, the keeper told Barr that if he did not stop he should send him in, but Barr said he would go when the rest did. The keeper wrote a note, which Barr probably supposed concerned him, and sent it in by another convict, and then turned his back to Barr, and began talking to some passer-by. Barr ran up and struck him with the edge of his iron shovel on the side of the face. This blow knocked the keeper over. Barr followed it up with three or four other blows and kicks, until another convict told him that he would kill him (Barr) if he did not stop. This threat made him desist, and he was taken into the prison. The keeper expired in a few moments.

The murder created the most intense excitement in the town, not only because of the brutal manner of the killing, but because the murderer had twice been an inmate of the Asylum for Insane Criminals. The latter fact was noised abroad in the papers ; the asylum authorities were taken to task ; they were guilty of the murder ; the convict was irresponsible, etc. The feeling became generally prevalent that Barr was insane, and public judgment was biased to a most unreasoning extent by prejudice. Keepers in the prison and others expressed their opinions the more strongly as they were ignorant of the real nature of insanity.

Barr was kept in the prison until the latter part of June or the first of July following, and then transferred to the county jail. He was indicted for murder, and in October last was arraigned for trial. He made no reply when asked the usual questions, and his counsel interposed the plea of insanity as his sole defense. Under the laws of New York, when a person is under indictment for murder and other crimes, if there be a doubt as to the sanity of the prisoner the court has power to appoint a commission in lunacy to examine into the mental condition of such prisoner. Such a commission was issued in the Barr case, composed of Dr. John P. Gray, superintendent of the State Lunatic Asylum at Utica, Dr. John B. Chapin, superintendent of the Williard In-

sane Asylum, and a local physician. After an extended investigation they found that Barr was sane both at the time of the homicide and when they examined him. It would appear at first sight that the finding of a commission of experts might so definitely settle the question of insanity that it could no longer be an element in the defense. If the prisoner is insane he may be remanded at once by order of the court to an asylum. By so doing the expense of a trial is avoided. When, however, a commission finds the prisoner sane the defense of insanity can still be used, and the finding of a commission, beyond a certain moral weight it bears, is of no service.

Barr's counsel accordingly used insanity as his sole defense. Portions of the evidence taken before the commission were read simply as the testimony of certain persons. The trial lasted a week. The jury stood at first nine for a verdict of guilty and three for acquittal on the ground of insanity; a verdict of murder in the second degree was, however, finally brought in, and Barr was sentenced to prison for life. He received his sentence with stolid indifference. On being told that he had got off very lightly he said he did not care. At the prison, when received there from court, he was asked why he did n't recognize some of his old keepers; he replied that he was n't recognizing any one *then*.

Reviewing the evidence given in this case, it will first be found that the reasons of the physician at the state prison at Dannemora for transferring Barr to the asylum were contradictory. He makes a diagnosis of one form of insanity, acute mania of several months' duration, and then says he was melancholic. He shows that Barr was insubordinate, violent, and noisy, but considering his low, brutal nature these acts are not necessarily indicative of insanity. Maudsley says,<sup>1</sup> "It will not be sufficient to make it the positive criterion of insanity that a man is unable to restrain his actions, for there are some criminals who by reason of a bad organization cannot control their acts." Barr's whole history shows that he was possessed of this bad organization. He was afflicted with a cerebral hyperæsthesia, and was in a state of constant nervous erethism, ready to explode at any moment.

The first year and a half of Barr's residence at the asylum is a blank; we know only that he was still vicious and insubordinate. During the seven months of my observation of him there I always found a cause, however trivial, for his bad behavior. Generally when his passion subsided he would acknowledge that he had done wrong, and promise to be good, and actually did better for a few days. Among the patients he had found several old pals. These he often incited to mischief, and endeavored to make them join with him in fights and attempts at escape, thereby showing a power or desire of combining which in the lunatic

<sup>1</sup> *Physiology and Pathology of the Mind*, page 409.



would almost never be found. The necessary lack of severe discipline at the asylum, the association with the weak and sick insane, and all the surroundings, so different from a prison, did much to develop the ungovernable elements in Barr's character. He learned his vast power of evil and freely exercised it, considering himself irresponsible because a lunatic.

Leaving the asylum and going to the prison his conduct does not improve; he is called a "luny," and his behavior regarded as that of an insane man. He whistles on Sunday in the chapel, but is not punished, as the warden says he is not "all right." (But only a short time before this a convict had done the same thing, and said that the devil was in his cell, and had been sent to the asylum. There he confessed that some feigners who had previously been in the asylum told him how to "play crazy." Barr knew these same persons, and without doubt also knew this recipe for insanity.) Finally, after threats to kill several persons (he said he would get over to the asylum again if he had to kill a keeper) and various acts of insubordination, the prison physician certifies that he is the victim of melancholia and paroxysmal mania, and again he enters the asylum. There no vestige of either can be discovered; he is bright, perfectly well, and tractable until some trifle makes him angry. He thinks, however, himself, that he is insane, and says his head is not right; but the insane do not think themselves insane.

Again he goes to prison, behaves somewhat better, and for the two months before the homicide the warden hears nothing of his insanity.

The circumstances of the murder were horrible, but still more terrible and unjustifiable murders have been committed by sane men. The keeper had made Barr angry, and it was natural that a man with his temper should raise whatever he might have in his hand and strike with it. More might be said on this point, but it seems unnecessary. Barr gives his reason for having struck the keeper, saying that he would not be imposed on, and the keeper was imposing on him.

After the homicide he no doubt has the old feeling that he is regarded as insane, and he is still violent and troublesome when irritated. He now speaks occasionally of devils. At the county jail he is at first troublesome, but on being punished his manifestations of violence cease. This change alone is strong evidence of sanity. A person violent enough to be yelling and whistling sufficiently loud to disturb the neighborhood would be affected with violent mania, and punishing such a person would have no other effect than aggravating the symptoms. As the time of the trial draws near he becomes quiet, and knows and talks with almost no one. If he does talk it is to speak of devils. The idea of seeing spirits and devils is one that generally occurs first to ignorant people; as Snell says,<sup>1</sup> "uneducated people have the idea

<sup>1</sup> Bucknill and Tuke, page 339.

that an evil spirit, as it were, takes possession of an insane man, and drives out his being with altogether new and perverted elements." Barr seems to realize that his knowledge is too limited to allow him to feign the violent forms of insanity, and he therefore fixes on the stupid, quiet, non-committal form. "The easiest mode of deception is to feign imbecility."<sup>1</sup> "The feigner generally mixes the appearances of several forms with each other, so that an unnatural representation of disease is offered. He usually overdoes the phenomena of mental disturbance. He believes that all must be reversed; instead of giving expression to delirious ideas he talks absurdly, and conducts himself as if in insanity the greater part of the intelligence and of the memory must be disturbed."<sup>2</sup> Barr is interested in his trial, prepares himself daily for it, and is impatient when it does not begin. Here he is showing interest, attention, and muscular activity; but he gets into the courtroom and is too demented to answer the simplest questions, or obey even the direction to stand up. At the same time he keeps his body in perpetual motion, laughs and mutters to himself, disturbs the order of the court, and creates a scene by a tremendous struggle with his keepers; here again he launches into mania.

The following extract from a conversation of Barr with the commission<sup>3</sup> is very striking, resembling in many respects reported conversations with other feigners:—

Q. How old are you? A. I don't know, sir. Q. Were you born in this country? A. I don't know. Q. What is your name? A. Barr. Q. What is your first name? A. William. Q. Your brother's name? A. I ain't got no brother. Q. What was your mother's name? A. I don't know, sir. Q. You say you don't know where you were born? A. No, sir. Q. Do you mean to say that? A. No, sir. Q. Where were you brought up? A. The devil is all the time talking to me. Q. Do you know Captain A (a keeper at the prison)? A. No. Q. Do you know Captain B? A. I don't know any of them at all. Q. Do you know Captain C? A. No. Q. Do you know Captain D? A. Where? Q. Do you know Captain E? A. No, sir. Q. Do you know your brother's name now? A. You know the devil is all the time talking to me about. Could hear him well enough, and I don't want to hear. That is the matter. Q. You say the devils are all the time talking to you? A. Yes, sir; you know. Q. What do they say? A. They won't let me rest. Q. Tell this gentlemen what they say, and he will write it down. A. I don't want it written down. Q. Can you read or write? A. No, sir. Q. When did you forget to read and write? A. You will all write too. On another occasion he was again asked where he was born, and replied, "I guess so; what do you want to talk to me for?" The question was repeated, and he said, "What are you talking to me for? There are seven hundred thousand devils flying around all the time; you know what they say."

"Men feigning insanity pretend that they cannot read or write or count ten correctly, or tell the day of the week, or how many children they have; they answer every question wrongly, which any real lunatic, who could be made to understand the question and to answer it at all, would certainly answer right."<sup>4</sup>

<sup>1</sup> Griesinger, page 121.

<sup>2</sup> Griesinger, page 120.

<sup>3</sup> Taken from the evidence before the commission.

<sup>4</sup> Bucknill and Tuke, page 338.



Barr says that he cannot read or write, and with the exception of two questions answers all wrong. Some of his answers are responsive, but many irrelevant and absurd. He knows his own name, but neither his father's nor his mother's. When asked his brother's name he is afraid, no doubt, that his brother may be found, and he says "I ain't got no brother." When asked if he knows certain persons he gives incorrect and different answers. His replies are nearly all in the negative, as if he had resolved to respond in that way. He also tries to drag in devils in his irrelevant answers, but he shows no originality in so doing, always repeating almost precisely the same words. He merely says that he sees or hears devils, but can go no further, though especially interrogated to do so. In true mania the lunatic under similar circumstances would rattle on with the most perfect volubility, soon changing to other subjects probably, if the attack were acute; if chronic, talking rationally and connectedly of his delusions, and even in many cases answering other questions properly. Barr's apparent delusions and hallucinations cannot, therefore, for a moment be dignified with the name of mania, and his absurd, almost always false, but often responsive answers, instead of showing the mental weakness, as loss of memory and attention, etc., of dementia, indicate a consistent and well-sustained effort willfully and wrongly to answer all questions. When he answers two questions correctly, giving his first and last names, he is evidently surprised into so doing. Barr in court presents the picture, to a limited extent, of advanced dementia and violent mania, incompatible, of course, in themselves. As expert testimony is given, showing the inconsistency of his actions, he changes according to what has been said. He has never looked any one in the eye, but on hearing that real lunatics do so he does the next day. Though too stupid to recognize any one, he eyes persons he has known very sharply, doing this when he supposes himself unobserved. If demented, his circulation would be sluggish, his hands cold, etc.; if maniacal, more active symptoms, slightly quicker pulse, loss of flesh and sleep, would be present; but his general health is good, his weight normal, and he sleeps well. The latter fact is of special importance as still further excluding mania.

But the other side of the picture is seen most distinctly when Barr is in his cell at night. Here the most plain, positive, and convincing proofs of Barr's feigning are brought to light. The poor lunatic, too demented to know his father's name, his own age, where he was born, etc., or to read and write, or to understand what is said to him, or to recognize one person out of many he has known, converses with the convict in the next cell, an old friend, after the other prisoners are asleep. Sometimes this conversation is prolonged until he tells the other "Shut up; I must go to sleep." Barr borrows papers of him, which he reads, and tobacco and cigars, which he also uses. The other

convict writes him a note, and he replies, calling him by his right name and signing his own. He finds out that the other has "told on him," and he is angry. In these and other ways he is the same old Barr, interested in what is going on, enjoying the luxuries of life, at times irritable, but perfectly rational and true to his own nature.

A closer analysis of the facts in this case would still further show wherein Barr endeavored to simulate, but a desire to be brief has led me to omit many details.

The future history of Barr will be interesting. With his inherited bad organization, amounting almost to the insane temperament, and the environment of a prison so monotonous and depressing, it will not be strange if mental instability ends in decided impairment, and the subject of this sketch terminates his days in a lunatic asylum.

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## FRACTURE OF THE LEG TREATED BY A NEW METHOD OF EXTENSION.<sup>1</sup>

BY WILLIAM D. ROBERTSON, M. D., STANSTEAD, CANADA,

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FRACTURE of the leg with riding of one fragment is a well-recognized form of fracture. The difficulties met in such a fracture need no mention here, nor do the methods proposed to overcome them. It would be impossible to canvass the literature of the subject, which is extensive and lies outside of the smaller English text-books. Hamilton, in his *Fractures and Dislocations*, gives the fullest account of recorded appliances, to which the reader is referred for comparison with the apparatus to be mentioned.

The case occurred in the service of Dr. Charles D. Homans and Dr. W. C. B. Fifield. By the kindness of these gentlemen I was allowed to apply the dressing to be described, and the favorable progress of the case seemed to warrant its continuance throughout the treatment, and the perfect result its presentation to the consideration of the society. The patient, a muscular laborer, entered the Boston City Hospital, giving the following history: While he was leaping from a horse-car moving at full speed, having projected his leg forwards to receive the weight of his body, his foot, meeting with an uneven surface upon the pavement, turned under him, and he was precipitated to the ground. The following injury corroborated his history of the accident: Both bones were broken in the lower third of the leg at about four inches from the malleoli, the tibia from before backwards and from above downwards, the lower fragment lying upon the upper like a wedge with the point

<sup>1</sup> Read before the Suffolk District Medical Society, December 29, 1877.

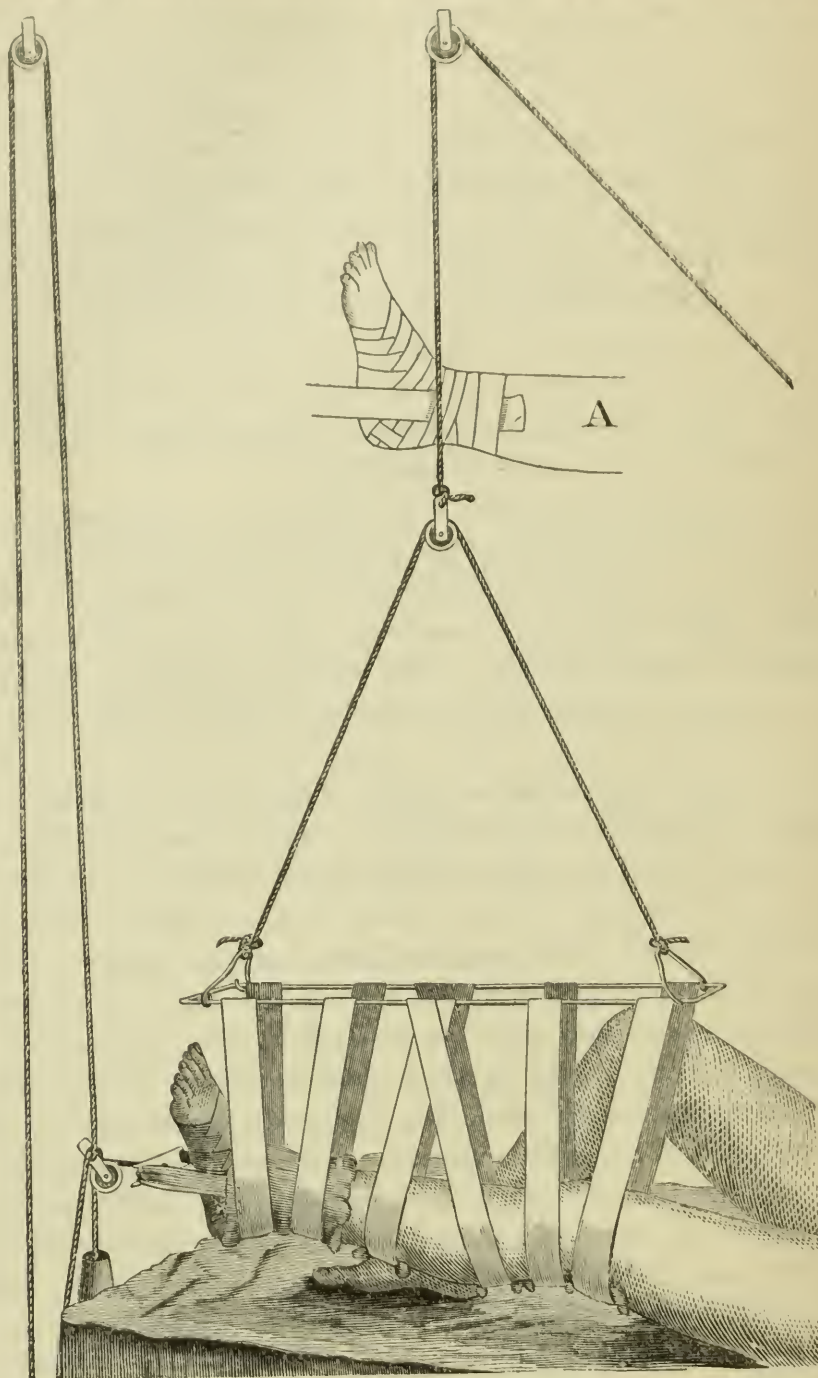


upwards, producing the deformity known as riding. The fibula was broken at the corresponding place. The foot was drawn upwards and backwards by the muscles attached to the tendo Achillis. There was free lateral mobility at the seat of the fracture, antero-posterior mobility being checked by the overlapping of the fragments and the contraction of the muscles of the calf. When the heel was left unsupported the lower fragment tilted up against the bruised skin of the shin. By grasping the foot and making steady traction the deformity was reduced. The leg was then placed in the ordinary fracture box, with side walls and foot-rest, the member being confined by webbing straps and pads of cotton. The patient was sent to the wards, and it was necessary to place the fracture box upon a plank to keep it in a level position, as it overhung the bed, the patient being six feet three inches in height in stockings. The following morning the deformity of riding was observed to have returned, and several large bullæ to have made their appearance at the seat of fracture. The patient passed a restless night. The deformity was reduced and the fracture box replaced.

Three days after the accident: Position bad. The foot sags downwards and is drawn backwards by the tendo Achillis, adequate support below the leg not being permitted from extreme tenderness. The fragments ride. The leg is much swollen. The skin is thin, tender, and ecchymotic at seat of fracture. The visiting surgeon remarked on his visit this morning that the fracture would in all probability become compound.

Four and a half days after accident: The leg was placed to-day in a modification of Smith's anterior splint. The deformity still remained, but by grasping the foot and making steady traction outwards and at the same time elevating the heel it was nicely reduced. The question of artificial extension then presented itself to the writer. The usual fixture for counter-extension at the foot of the bed was of course impracticable in connection with Smith's splint, since any lateral motion of the patient's body would produce lateral motion in the fragments, the foot being stationary while the leg swung from side to side. It was plain that two conditions must be observed to accomplish natural extension: the traction must be constant, and such traction must be in the axis of the leg; therefore the pulley for extension must swing freely and follow every motion of the Smith's splint. This was obtained by carrying a line, the two ends of which were secured to the floor, over a second pulley fixed in the ceiling. (Vide engraving.) By fixing the pulley upon the inner line at a point which would insure traction in the axis of the leg, the inner line was drawn out of its perpendicular towards the foot by the weight attached to the line running from it over the pulley to the foot, thereby allowing sidewise swinging motion, lengthwise movement being provided for by the ad-

vance and retreat of the weight supplying traction. Wide pieces of strapping (plaster) were applied to the sides of the foot and leg as high as the seat of fracture. A snug, soft bandage was applied from the toes upwards to the point of fracture, each fold as it lay over the plaster being pinned to it to reinforce its adhesive properties. The strips of



plaster were tied below the foot and spread by a wooden yoke, to keep the pressure from the sides of the foot. Traction now being slightly upwards as well as outwards, very slight support from the lower strap of the Smith's splint served to keep the foot up in proper position and to relieve the tendo Achillis of unfavorable pressure, the straps passing



below the leg being well padded with soft cotton. The next morning after this was applied the patient expressed himself as having passed the most comfortable night since his accident. There was no riding of the fragments. After twenty-four hours the ten-pound weight was omitted, and one of half that amount substituted and continued throughout the treatment. Four days after its application the skin lost its blush and tender character, and the sore heel — that bugbear of surgery in broken legs — disappeared. Good union was pronounced in four weeks from the time of accident, and the leg was placed in a stiff (silicate of soda) dressing. A week afterwards this was removed and a new one reapplied. A week after this the patient was discharged, well, with no riding of fragments, no perceptible shortening, indeed no deformity of the leg other than the thickening of the bone usually observed in fractures of large bones.

Division of the tendo Achillis by its distinguished inventor, Laugier, has been sometimes successful, at other times useless. Malgaigne's spear recorded many brilliant cases, but at last some unfortunate ones, with periostitis, pyæmia, and death; so that perhaps few surgeons would now apply this savage instrument without great hesitation. Between these extremes and that of all absence of surgical treatment, numerous methods used with partial success are figured in Hamilton's *Fractures and Dislocations*, but none of the methods have met with his unqualified approval, for plain reasons. By referring to the methods there described it will be seen that the attention of these gentlemen has been confined to the leg itself for means of counter-extension, and they have all failed for two reasons: Where circular bands are applied to the leg such ligation is produced as to necessitate, as Hamilton says, their removal in a short time if enough force is exerted to have any effect in reducing the deformity; and where plaster has been applied to the sides of the leg after Crandall's method, insufficient surface is obtained to prevent the plaster from slipping on making extension. Hamilton suggests that something might be done by extension from the perinæum, but gives no distinct plan. In the present case ligation is avoided below, at the ankle, by carrying the bandage from the toes upwards; and besides the vessels lie deeply at the malleoli, and there is little danger of ligation at this point. No ligation can take place above, for counter-extension is obtained by the natural weight of the patient's body, the foot of the bed being raised on blocks, as in the treatment of *morbus coxæ*.

To sum up the advantages for this form of treatment, they are: first, those in the modification of Smith's anterior splint. It allows a favorable and pleasant amount of motion in bed during confinement with the fracture, allowing the patient to sit up to eat, read his paper, and, what is vastly more important than either, to use the bed-pan with positively no inconvenience and absolutely no displacement of the fragments,

since the leg swings freely and traction is constant, even in motion. It permits the ready application of dressings to the member in compound injuries, ulcers of the leg, etc. It affords to the surgeon a constant view of the parts without disturbance of the apparatus. The elevation of the limb favors circulation. The necessary materials for the splint can be obtained in any community that can furnish a few pulleys, a stout bit of wire for the Smith's frame, and a couple of ropes. It is cool, comfortable, and cheap.

The swinging extension supplies constant traction, unlike the former methods, where traction was attempted by unyielding straps or screws; and the relaxation of the parts having taken place to accommodate themselves to the extension exerted, no further traction was made. Counter-extension is obtained without danger of ligation or any necessary surface for the application of plaster above the fracture, which, if high, would render its application completely useless. The traction, being upwards as well as outwards, tends to support the lower fragment and foot; therefore only a small amount of support is required to keep the foot in position; thus sore heels are avoided.

Inasmuch as none of the benefits claimed for the modification of Smith's splint are interfered with by the swinging extension used, none of its advantages are lost by this method of treatment. If ligation is avoided, one of Malgaigne's chief claims for his celebrated spear is not absent; and if the constant traction overcomes the powerful contraction of the muscles attached to the tendo Achillis, Laugier's division of this tendon and all such severe measures are unnecessary.

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## RECENT PROGRESS IN PATHOLOGY AND PATHOLOGICAL ANATOMY.

BY R. H. FITZ, M. D.

### PATHOLOGY.

*Sudden Death after Severe Burns.* — At a recent meeting of the German naturalists in Munich, Ponfick<sup>1</sup> gives the results of a series of experiments made by himself and F. Schmidt with reference to the results of severe burns. The blood was found to be altered in all cases of severity, the red corpuscles separating into numerous small bits. These disappeared after a varying number of hours, with the seeming effect of exciting grave disturbance in several organs. A large portion of the apparently free hæmoglobine was eliminated through the kidneys, the parenchyma of which in the severe cases was evidently much inflamed, peculiarly colored casts being found in the urine, while the tubules were obstructed, and the epithelium in a state of fatty degen-

<sup>1</sup> Berliner klinische Wochenschrift, 1877, xlv. 672.



eration. Another portion of the decomposed red corpuscles was taken up by the contractile cells of the spleen and bone-marrow, in which a gradual destruction was probably accomplished. The enlargement of these parts, their increased redness and moisture, offered gross evidence that the change mentioned was present.

It seems probable that some of the rapidly fatal cases and some of the severe symptoms in cases of recovery result from the extensive and sudden destruction of red blood corpuscles. The rapid suppression of urine, and a resulting uræmic poisoning, may also be of importance. From the evidence presented by these experiments Ponfick recommends transfusion as a rational therapeutical measure in cases of severe burns.

*Tyrosine and its Presence in the Organism.* — Huber<sup>1</sup> has taken the opportunity of studying chemically and physically the peculiar crystals found so abundantly in cases of leucæmia, and which have generally been spoken of as Charcot's crystals, from the fact that this observer first called attention to them.

Although they were present in great numbers in the spleen, Huber was unable to isolate them in sufficient numbers to study their chemical properties, and was therefore compelled to observe the micro-chemical changes taking place in them. He found that most of the reactions which arose were the same as those occurring when tyrosine was placed under like conditions.

When as pure a solution as possible of these crystals was made, there were subsequently precipitated forms resembling those of tyrosine, and presenting similar reactions, although the original crystalline form did not reappear. He therefore declares these peculiar crystals to be tyrosine, an idea previously suggested by Friedreich, though often disputed from the insufficiency of the evidence. With regard to the few tests which are not common, he thinks the discrepancy to be the probable result of differences in the quantity of material employed, the degree of concentration of the reagents used, and the necessary presence of foreign matter.

He therefore regards the rhombic plates, the "peculiar" crystals of Charcot, the leukosin of White, as a rare form of tyrosine, which may be easily recrystallized into the more common acicular form.

It has been found after death in various organs and tissues from cases of leucæmia, although it is most probably present in this disease during life.

It is much more commonly met with in the animal organism than has previously been known, both during life and after death, under normal as well as pathological conditions. It is to be regarded as a product of the decomposition of the albuminates, especially of cells, with the exception of red blood corpuscles. The two essential conditions for its ex-

<sup>1</sup> Archiv der Heilkunde, 1877, xviii. 485.

istence are the utmost possible exclusion of atmospheric air and the presence of a certain degree of moisture. An elevated temperature, certain substances acting specifically, and perhaps a sluggish circulation in the living body act as favoring conditions.

*Pulmonary Œdema.* — Under the direction of Cohnheim a series of experiments have been made by Dr. Welch,<sup>1</sup> of New York, for the purpose of obtaining information with regard to the causes of œdema of the lungs.

It has already been shown that hydræmic plethora alone is incapable of producing pulmonary œdema, and Welch endeavored to find another factor. After critically reviewing the various causes of œdema as given by Niemeyer and Hertz, he concludes that none of them are sufficiently explanatory. He then sought to learn from experiment whether pulmonary œdema might arise from passive congestion, which was brought about by the ligature of several branches of the aorta. These experiments furnished a positive result, although such a degree of arterial obstruction became necessary for this purpose as could scarcely occur in man.

In the attempts at causing œdema by ligature of the pulmonary veins it was found that all the veins from one lung might be tied and no œdema result. The lung became gorged with blood, but not œdematous. That œdema might arise it was necessary to tie also the veins from the upper and middle lobes of the other lung.

It was thus evident that the mechanical causes of œdema are much more severe than those occurring in the vast majority of cases of acute general dropsy of the lungs in man. It seemed probable that œdema might arise if a misproportion existed between the action of the two ventricles, in consequence of which the left ventricle should expel in a given time only a portion of the amount of blood which the right ventricle forced into the pulmonary artery, such as might arise from paralysis of the left ventricle. Such a paralysis was produced by compression of the walls of the ventricle, and pulmonary œdema followed. When the right ventricle was paralyzed no œdema ensued.

The immediate cause of pulmonary œdema is therefore considered to be a predominant weakness of the left ventricle. Favoring causes may be found in collateral hyperæmia of one lung when the other is hepatized, in passive congestion dependent upon mitral stenosis, and in hydræmia consequent to Bright's disease. But when these favoring causes are present the œdema does not always follow; another factor must also exist. If both sides of the heart become alike enfeebled during the death agony there is no œdema, although this event takes place when the left side is more rapidly and more completely paralyzed. The hypothetical nature of this explanation is fully recognized, and the possibility of its proof in the case of man is doubted.

<sup>1</sup> Virchow's Archiv, 1878, lxi. 375.



*Absorption of Foreign Bodies by the Lungs.* — Nothnagel<sup>1</sup> calls attention to the extreme rapidity of the absorption of blood from the respiratory surface. When the carotids and trachea of a rabbit are cut, death takes place within three minutes, and the lungs are found to contain a varying quantity of blood. The blood corpuscles are present in great quantity, not only in the bronchi, but also in the interstitial tissue. The possibility of the pulmonary hæmorrhage arising through spasmodic contraction of the vessels from loss of blood was eliminated by producing death through hæmorrhage, the trachea being left intact. In such cases the lungs were unaltered.

The rapidity with which foreign bodies are absorbed has already been noticed, and as it seems probable that the particles enter the interstitial tissue through the lymphatics, the observations of Nothnagel suggest how free the communication must be between the vessels and the respiratory surface. From the evident certainty of the free and rapid absorption of corpuscles, attention is called to the possibility of corpuscles as such reëntering the circulation in fibrinous pneumonia. The conditions are recognized as different, the corpuscles in this disease being for some time outside the vessels; still, the possibility referred to cannot be denied.

The relation of phthisis to hæmoptysis is also suggested by these observations. The well-known views of Niemeyer and other clinicians by whom the hæmoptysis was considered to be a cause of the phthisis were apparently favored by the experiments of Sommerbrodt, who found that under certain conditions pulmonary hæmorrhage might give rise to a catarrhal pneumonia. The evident extreme rapidity of the absorption of the blood in the observations of Nothnagel is considered as not favoring the above theory.

With reference to the absorption of soot by the lungs, the conclusions arrived at by Ruppert<sup>2</sup> may be mentioned. This writer endeavored to eliminate some of the complications resulting from the methods adopted by other experimenters, especially by Slavjansky. His investigations were directed towards ascertaining the alterations produced in the epithelium of the air-passages as well as in the subepithelial tissues, when air containing particles of soot was inhaled. He also sought for the channels by which the soot was received into the interstitial tissue, the force causing them to enter, and the condition they were in while entering, whether as free particles or inclosed within cells.

By causing the animals to inhale air laden with soot from an ordinary petroleum lamp from which the chimney was removed, he obviated the introduction of material capable of producing chemical changes. It was found that the particles were taken up in part by the alveolar epithe-

<sup>1</sup> Virchow's Archiv, 1877, lxxi. 414.

<sup>2</sup> Virchow's Archiv, 1878, lxxii. 14.

lium and in part entered the tissue. The former gave rise to such alterations in the cells that a subsequent desquamation of them took place.

In general the soot passed directly into the tissues, and only to a very limited extent by means of amœboid cells. After it had entered the tissues it was always found within certain portions of the lymphatic system. It could not be accurately determined through what channels this entrance took place, although it seemed most probable that such were present between the epithelial cells, and that the lymph-currents furnished the force by which the particles were carried along.

(To be concluded.)

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## PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

A. L. MASON, M. D., SECRETARY.

DECEMBER 29, 1877. Ninety members were present, DR. HOMANS, the president, in the chair.

*Fracture of the Leg treated by Swinging Extension.* — DR. W. D. ROBERTSON reported a case of fracture with riding fragments treated successfully by an apparatus devised by himself.<sup>1</sup>

DR. FIFIELD said that he had never seen before the application of a similar apparatus in the treatment of this class of fractures, and that Dr. Robertson was to be congratulated on the result. Richet, in a late publication, after condemning Malgaigne's apparatus and various others, had been able to offer nothing better than a plaster-of-Paris slipper with tapes to tie to the bedstead above. Dr. Robertson's appliance was regarded as better than any previously devised.

*Pneumono-Dynamics.* — DR. GARLAND replied at length to Dr. Hunt's criticism on his paper, read at a previous meeting, and made some interesting experiments before the society in support of his propositions. Dr. Garland's researches are embodied in his monograph on Pneumono-Dynamics, lately published.

DR. HUNT thought that the experiments of Dr. Garland did not substantiate his thesis, which was said by Dr. Hunt not to be in accordance with the laws of physics.

DR. BOWDITCH said that the discussion had been extremely interesting. He thought that, although Dr. Garland's expressions might in some instances be open to question, the state of the fluid in cases of pleuritic effusion was in some way due to the elasticity of the lung; how, he did not know. Dr. Bowditch regarded change of the level of flatness on percussion as the *experimentum crucis* in determining cases of pleurisy with effusion. He had met but few cases in which a different line of flatness had not been observed on change of position if the examination were carefully made.

DR. ELLIS suggested that the usual mode of examining a patient to ascertain the variations of sound, on a change of position, is such as to confirm the

<sup>1</sup> See page 662 of this number.



general belief in such a change. The test is made as near the upper line of the effusion as possible, and the point very carefully maintained when the position varies. The space covered by the finger is less than an inch in width, within which Dr. Garland admitted that the sound might change. With the new light now thrown upon the subject more careful examinations should be made to ascertain the extent of the area over which the change is noticed. In this way conflicting views might perhaps be reconciled, and a certain ratio be shown to exist between the extent of the variation and the amount of the effusion.

Dr. Ellis mentioned the case of a man who had chronic valvular disease of the heart and an effusion into the right pleural cavity, the curve of flatness running from a point near the base of the chest at the spine through the lower angle of the scapula to about the fourth rib in front. The inferior edge of the liver was lower than usual. For several days the sinking in of the intercostal spaces during inspiration and the bulging during expiration were very marked. The chest was then tapped with the hope of affording some relief to the urgent dyspnœa, and about three pints of serum were drawn off without change in the movement of the intercostal muscles. The patient died suddenly about thirty-six hours after the operation. At the autopsy two pints more of yellow fluid were found in the right pleural cavity. The pleura was thickened, injected, and somewhat opaque. The lower part of the lung of this side was highly œdematous, the other lung normal. The pericardium contained four ounces of serum. The heart was nearly twice the normal size, owing to universal hypertrophy and dilatation. The left auricle contained a thrombus as large as a dried fig, extending from the appendix to the valve, mostly old, with some more recent coagulum at the lower end. The mitral valve admitted the tips of four fingers, the tricuspid five. The pulmonary artery was so thickened as to resemble the aorta; its valves were normal. The aortal valves were thickened, retracted, and insufficient. The aorta was extensively thickened, calcified, and atheromatous. Both sides of the heart held an abundance of freshly coagulated blood. The liver was of a purple color, contained an abundance of blood, and was moderately granular.

The question suggested by the case was, What was the cause of the play of the intercostal spaces if the lung were powerless? By what agency was this large quantity of fluid moved with every respiratory act? The details of the autopsy are given, as they may aid in the solution of the problem.

JANUARY 26, 1878. Sixty-three members were present, DR. CALVIN ELLIS the vice-president, in the chair.

*Eserine and Pilocarpine in Ulceration of the Cornea.* — DR. H. W. WILLIAMS said that he had found eserine, the alkaloid of calabar bean, of great value in the treatment of corneal ulcers, and had used it extensively for the past two years at the Boston City Hospital and in his private practice. The action was the opposite of atropine, contracting the pupil instead of dilating, thereby diminishing photophobia. Pilocarpine has the same effect, does not produce irritation of the conjunctiva or supra-orbital pain, and is perhaps preferable. Dr. Williams's observations were published at length in the JOURNAL.<sup>1</sup>

<sup>1</sup> March 14, 1878.

*Double Rupture of the Jejunum.* — DR. CHENERY reported the case, which occurred in the practice of Dr. Hall, of Sheepscot Bridge, Maine.

At seven P. M., November 1, 1877, Dr. Hall was called to see a young man, nineteen years of age, a farmer, and found him suffering most severe pain over the whole abdomen. Pulse 130, weak and thready. Tongue slightly coated. Temperature 99° F. Face pale and anxious; pupils normal. Abdomen tense and somewhat tender on pressure, but the tenderness was not more marked in any particular spot. Urine scanty and very high-colored. Patient very thirsty, with occasional vomiting of mucus filled with dark, shreddy material like disintegrated blood. A natural passage from the bowels had taken place.

He was a remarkably large, healthy-looking man, with no taint of inherited disease, and had always enjoyed good health up to within six months of this time, when he began to suffer from occasional attacks of colic, which were relieved by simple carminatives and warm applications to the abdomen.

During the forenoon of November 1st he was engaged in plowing a rough piece of ground. About eleven o'clock he stepped into a hole and received a severe shock. He felt "something hurt him" in the bowels, but continued his work until noon. When he came in to dinner he felt sick, and could not eat anything. In the course of an hour there was severe pain in the abdomen and vomiting every few minutes. Pain and vomiting continued in spite of ordinary remedies, which were employed, till Dr. Hall was summoned in the evening. He immediately injected one fourth grain morphia sulph. subcutaneously, and followed it with the same dose in half an hour; this procured some relief. Hot cloths sprinkled with ol. terebinth. were applied to the abdomen, and a mixture containing creosotum was given for the vomiting. He took eight grains of morphia sulph. within the next twenty-four hours without any effect beyond a slight relief from the pain. The case was regarded as acute peritonitis from exposure to cold while he was overheated. Death took place about four and a half P. M., November 2d, or about twenty-nine hours after he felt the sudden pain, after stepping into the hole.

Autopsy twenty hours after death. Rigor mortis marked. No external signs of wounds or bruises. Abdomen extremely tense. On opening the abdominal cavity a large amount of very foetid gas escaped. The intestines presented a peculiar appearance. In the umbilical region a mass of intestine as large as the two hands was seen, almost black, and very much swollen. This was found to be the lower portion of the jejunum, six feet in length, and the intestine and corresponding mesentery were so much congested that they seemed a perfect mass of clotted blood. At the lower end of this diseased portion was a rent through all the coats of the intestine as large as a copper cent piece. The edges were thin and presented the appearance of having been shaved off from the inner surface to the outer. These edges were ragged and easily torn, but could not be adjusted to each other. The opening appeared as if a piece had been detached. There was no pus or other sign of localized ulceration. Three feet above this was a second opening as large as the extremity of the little finger, and having precisely the same characters as the first. The intestine was filled with thick blood. The abdominal cavity contained two quarts of serum mixed with blood and the normal intestinal contents. Other organs healthy.



Dr. Hall considered the above case to be quite a singular one, and thought the attacks of colic to which the man was subject were owing to the ulceration which was going on for several months.

Dr. Chenery mentioned a case in his own practice where a similar ulceration took place through the walls of the large curvature of the stomach and resulted in a fatal peritonitis. In this case the ulcer was about an inch and a half across on the mucous surface, but grew narrower as it penetrated deeper, until it opened through the peritonæum by an aperture admitting the point of the little finger. There was no thickening or fibrinous exudation into the tissues about the ulcer. The patient was subject to considerable distress, which at times became very much aggravated and radiating, and would seem to shoot up to his head, causing him to be bewildered and insane, and during the two and a half years in which he was a sufferer with his stomach he was several times sent to the insane asylum. He assured me that the bewilderment sometimes passed off in a few hours or days, but that none of the attacks of insanity came on except after distress in his stomach. He was thirty-five years old.

*A Rib fractured by Cough.* — DR. CHENERY was hastily summoned October 15th to a woman who, in a fit of coughing, felt something give way in her side attended by a sharp report and a severe pain. She was twenty-three, was confined nine months after marriage, had scarlet fever one week afterwards, and lost her child by that disease, and after nineteen months of married life she was about to be confined again. For two or three weeks she had had a cough which was spasmodic in character, like whooping-cough, but she had had whooping-cough when a child. The conclusion, therefore, was that the cough arose from a real bronchitis, borrowing something of its nervous complication from the state she was in. On the morning of the accident she was not coughing very hard. She had just had a paroxysm, however, which was followed by an unusual spasm of the right side, at which time the rib gave way. Being the lower fixed rib, the cartilage was carried forward and held by the gravid uterus, thus favoring the action of the muscles. A broad strip of adhesive plaster was applied three inches to the left of the spine and carried well round upon the cartilages, and terminated there, while hypodermic injections of morphine were employed as near to the seat of injury as possible in order to ease the pain and check the cough. She was confined seven days later, and did well.

Dr. Chenery said that it was not common to meet with fracture of the ribs except from external force. The only other case occurring in his own practice which was not due to direct outward violence, was in an aged but active farmer. He was a tall man, and in exerting himself to pull up a juniper root it gave way, causing him to sit suddenly down upon a rock which was behind him. The costal muscles were doubtless in a tense condition at the time, and three ribs were broken. Although ribs do sometimes give way in the aged by the force of severe cough, it is unusual to meet with such an accident in young people; therefore Dr. Chenery thought that the cause was to be found in an altered condition of the ribs themselves, due to the pregnant state. When married, nineteen months before, this woman had a beautiful set of teeth, with no decay among them. A few months after conception she began

to experience trouble with her teeth. They ached, were tender, began to decay, and to crumble away easily, so that she was obliged to have some removed. On her second conception decay of the teeth took a new start, several others were extracted, and all were in such a state that the only alternative was their entire removal and replacement by an artificial set. She is now nursing her child, and though she has gained flesh does not regain strength in proportion. Her cough is gone. Dr. Chenery had asked a leading dentist if he found cases of rapid diseases of the teeth which he thought were due to gestation. He replied that he did, and that not unfrequently.

DR. READ thought that teeth should not be extracted during pregnancy, from the possibility of waking up other symptoms.

DR. CHENERY said that he had withdrawn many teeth from patients in that condition, both with and without ether, and had never seen any ill effects.

DR. T. B. CURTIS spoke of strapping unilaterally for fractured ribs, saying that in France the straps were carried all round, and that he could see no probability of relieving the respiration, when the great mobility of the thoracic walls was considered, without confining the respiration to the diaphragm chiefly. Dr. Curtis mentioned a recent article in the JOURNAL on Strapping the Affected Side in Pleurisy, and questioned the advantage of unilateral strapping as compared with the circular method.

*Feigned Insanity.* — DR. WALTER CHANNING read a paper on this subject, which is published in full.<sup>1</sup>

DR. BOWDITCH asked Dr. Channing if insane persons did not admit or know that they were so.

DR. CHANNING replied that it was rare.

In answer to an inquiry from Dr. A. N. Blodgett, whether acute mania and melancholia were never observed in the same patient, Dr. Channing said that these different conditions were seldom present at the same time, though they might in some cases alternate (*la folie circulaire*).

DR. J. B. AYER mentioned a case of supposed melancholia, lately under observation, which had broken out into an attack of acute mania. On removal to the asylum the patient was regarded as melancholic, and had continued so.

*Feigned Insanity.* — DR. FISHER also reported a case of feigned insanity occurring in 1864 at the Suffolk County House of Correction, the hospital department being under the charge of the physicians of the Boston Lunatic Hospital. The prisoner was a young woman named Patten, just sentenced for two years for larceny. She was a fine-looking, healthy girl, about twenty-five years old, and was brought into the hospital for refusing to work and for "acting queerly" in the shop. She refused to converse, and was put in a large cell with a good bed. Her conduct at first resembled somewhat that of a mild case of acute mania. She sang and talked at random, and disarranged her bed and furniture. Was overheard to say, "I went to hell last night, and walked all round the gravel walks." Also sang such impromptu lines as "Three black cats dressed in white, Three white cats dressed in gray," etc. After a second observation and a careful attention to her attempts at incoherence, it was the decided opinion of Dr. Walker and Dr. Fisher that she was feigning. She was told so, and warned against the

<sup>1</sup> See page 655.



consequences of persisting in her attempt. The next day she had ceased to talk and sing, and had assumed a demented appearance. Her hair was disheveled, and her face stained with blood, apparently coming from the nose, mouth, and ears. Her hair was long and beautiful, and had probably been her pride, as she was evidently neat, sober, and intelligent, and was a skillful shop-lifter. Her hair was put in order, and she was told that if disarranged on the next visit it would be cut off. The next day it was in tolerable order, but the day after, being disheveled, it was cut off. She was so angry at this that her conduct became more and more aggravated. She tore up her bedding, and it was removed. She broke her furniture, and it was taken away. Her diet was simply gruel, made purposely very thin; but she refused it, and it was invariably found in her cup untouched. She soon began to destroy her clothing, which was removed, and none supplied in its place. Being now quite naked, she was put in a cell with a darkened door, and given a blanket and some straw. These were soon destroyed or thrown out at a small window. Her cell and person were soiled with blood and excrement, and she continued to refuse her gruel, though it is probable that after drinking part of it she made up the loss by urinating in the tin cup.

This state of things lasted just one month, until she had gained the sympathy of all the prison officials, who are more often inclined to doubt the presence of actual insanity than to see it when it does not exist. It was only by sheer obstinacy that the doctors were able to continue their plan of treatment. They were sustained by various slight signs of sanity, one of which was very striking; although stark naked as well as seemingly stark mad, she never exposed herself fully to their gaze on the daily visit, but turned her back or crouched in a corner.

At the beginning of the fifth week she was found crying. The next day she spoke in a calm and natural tone, saying that she was ready to confess. She admitted that she had been feigning for the purpose of getting transferred to an insane hospital. After full diet for two or three days she went to the shop, and worked faithfully till the expiration of her sentence.

DR. BOWDITCH inquired the reasons for the diagnosis of feigned insanity, and whether an attempt to keep out of view, when nude, on the part of a patient, would exclude the idea of insanity.

DR. FISHER replied that among other signs of simulation were the perfect general health, natural pulse, and clumsy attempt at incoherence; also that an insane person, as a rule, would not mind exposing herself.

DR. C. F. FOLSOM said that he had seen a number of such cases, and that the general appearance and symptoms must be relied on for a diagnosis. Usually the face and conduct indicated the condition. He mentioned a case of feigned catalepsy in which the patient lay in bed for thirty-six hours without food and water, which were within his reach all the time.

In answer to a question by Dr. Chenery, DR. FISHER said that his patient lost flesh, but that at the end of her attempt she was perfectly well. The disappearance of the symptoms of insanity was not gradual, and there was no hysteria.

*(To be concluded.)*

## ADMISSION OF WOMEN TO THE STATE SOCIETY.

A CIRCULAR is at present being distributed among the members of the Massachusetts Medical Society by a committee from the Middlesex South District, in which members are asked to answer "yes" or "no" to each of the following questions:—

"A. Are you in favor of admitting women, thoroughly educated in medicine and surgery, who have passed a satisfactory examination before the board of censors, to full fellowship in the Massachusetts Medical Society?"

"B. Are you in favor of admitting women to examination by the board of censors, such examination being conducted in accordance with by-laws I. and II., with the understanding that, if it prove satisfactory, a certificate shall be given to that effect, signed by the board of censors, which certificate shall make them eligible to consultation, and shall give them such other rights and privileges as the society may, from time to time, decide to grant them?"

When this matter was first brought before the district society in October last we took occasion to express our opinion that the time for action had not arrived; that respectable female practitioners did not as yet constitute a sufficiently large class, and there were none of such exceptional attainments as to demand notice on their own account. Under these circumstances it could hardly be expected that we could give an affirmative answer to either of the above interrogatories; but apart from the question of admitting women to the society, viewed in the abstract, we would call attention to some of the difficulties which may attend their recognition as members under our present system of examinations. The varied and uncertain measures to which such candidates would be obliged to resort to obtain their education would render a careful scrutiny of qualifications exceedingly important both for their own and the society's future welfare. This under our present methods would scarcely be attainable. The standard of excellence required for admission varies in each district according to the views held upon this subject by each board of censors. This has always seemed to us a weak point in the organization of the society. The fortunes of the aspiring ladies would inevitably vary accordingly. In those districts where "women sympathizers" abounded the gallantry of the board might endanger their qualifications as careful examiners, while on the other hand well-educated women might be driven from certain portions of the State by those whose prejudices had got the better of their sense of justice. In other words, we have no guarantee that under the present system most undesirable individuals, aided by the prestige of a popular movement, might not find their way into the society, or that justice would be dealt out equally to all.

If the presence of a considerable body of well-educated female physicians in this neighborhood had become an established fact, should we necessarily be called upon as a state society to receive them into our ranks? We think not. We can see no advantages accruing to the advancement of medicine in this State by the association of the sexes in such a manner as this would imply. There will be time enough later to consider what form of recognition our physicians as a body shall give to the new-comers without rushing into an experiment from which it will be impossible to recede should the issue prove a fail-



ure. In the mean time the councilors may well occupy their time with many important questions of the day, such as raising the standard of medical education, the regulation of great abuses in the practice of medicine by males, and, last but not least, the advancement of medical science.

Without therefore ranking ourselves among the irreconcilables, we may venture to hope that the matter will be laid upon the table by the councilors at their coming meeting.

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### MEDICAL NOTES.

— The senate of Pennsylvania on Friday last passed the house bill, making an appropriation of one hundred thousand dollars to the Jefferson Medical College Hospital. This is the second appropriation of this amount to Jefferson. The University of Pennsylvania also tried for another one hundred thousand dollars at the same time, but as they have already had two appropriations amounting to two hundred and fifty thousand dollars, the house refused to pass the bill.

— The Collège de France will select a successor to Claude Bernard on May 26th. Professor Charcot is said to have a good chance of being appointed. It is objected to Dr. Brown-Séquard by *Le Progrès Médical* that he is a "*professeur voyageur*," having been appointed professor in no less than five different universities, the last of which was Geneva. We learn, however, that Professors Marey, Balbiani, and Ranvier, of the faculty of the college, have decided to urge their colleagues to vote for Dr. Brown-Séquard, and that their views will probably have great weight.

— The surgeon-general of the United States Marine Hospital service, as a preliminary to publishing the Weekly Abstracts of the Consular Sanitary reports and other Pertinent Information, required by the new quarantine act, heretofore noticed in these columns, has issued a circular to "*state and municipal boards of health and port sanitary authorities in the United States*, wherein such organizations are requested to furnish him with their "official title and particular address," and also desires them to send in exchange for his own copies of their weekly reports. (Vide Circular No. 5, United States Marine Hospital service, series 1878.)

— The *Journal de Médecine* says that instruments of hard rubber, which are infrequently used, and which therefore become brittle and liable to break, may be restored to their original tenacity and elasticity by plunging them into lukewarm water, the temperature of which should then be gradually raised until the desired result has been attained.

— The *Bulletin de l'Académie de Médecine de Belgique* reports the case of a female child who was born with a vigorous growth of hair upon the pubes, who began to menstruate at the age of four years, and who, violated when eight years old by a man aged thirty-two years, gave birth, three months later, to a hydatid mole accompanied by a fœtus. She completely recovered her health.

— Among the rarities presented at the March meeting of the London Pathological Society was a calculus containing indigo. According to the president, Dr. Murchison, it was the first indigo calculus on record.

— Dr. J. Milner Fothergill recently restored to life a woman already *in extremis* from the effects of a large dose of laudanum by injecting hypodermically a full grain of the sulphate of atropia, the largest medical dose yet recorded.

— In a communication to the French Academy, Cyon claims that the eighth pair of cerebral nerves contains two nerves of entirely distinct senses, the auditory and the nerve of space (*raumnerf*). He considers the latter the source of all our ideas of extension, and of the three dimensions of space.

— Dr. Wachsmuth, of Berlin, asserts that much of the danger from the administration of chloroform may be averted by adding a small quantity (twenty per cent.) of the oil of turpentine, which he says stimulates the lungs and thus protects them against the great enemy of chloroform narcosis, — pulmonary paralysis. We trust that nobody will attempt to prove the assertion.

— Mr. Edward Nettleship has been elected ophthalmic surgeon to St. Thomas's Hospital *vice* Liebreich, resigned.

— Dr. Guyot, of Paris, after careful calculation, estimates that during sixty years of life the heart pulsates 2,269,800,000 times; during a life of eighty years, 3,007,040,000 times; in one hundred years there are 3,792,550,000 pulsations.

— Thymol, a homologue of phenol, and extracted from the essential oil of thyme, of the American horse-radish, and of the *ptychotis ajowan*, has been used as an antiseptic by German surgeons for more than two years, and is now being introduced into America. Discovered in 1709 by Caspar Neumann, it was first used to deodorize unhealthy wounds in 1868 by Bouillon and Baquet, of Lille. Under certain circumstances its antiseptic qualities are said to be from four to twenty-five times as powerful as those of carbolic acid. Thymol is crystalline, nearly colorless, has a pleasant odor and an aromatic, burning taste; dissolves in twelve hundred parts of water, one part of rectified spirit, and one hundred and twenty parts of glycerine. Its action as a poison is only one tenth that of carbolic acid, and it does not irritate the skin. These qualities together with its great antiseptic power indicate its substitution for carbolic acid in the Lister treatment of wounds. Professor Volkmann, of Halle, has used it in preference and with great success. It has also been used for various skin diseases by Dr. R. Crocker, of London. For further details see *New Remedies* for April 16th and Mr. Gerrard's paper in the *Pharmaceutical Journal*. As an ointment Crocker uses five to thirty grains of thymol to one ounce of vaseline; as a lotion, thymol grs. v., spirit. rectif. et glycerin. āā ʒi. aquæ q. s. ad ʒviiij. Since one part of thymol will do as much antiseptic work as twenty-five parts of carbolic acid, the former is really the cheaper of the two, although in equal bulk it costs five times as much as the latter.

— The supreme court of Alabama has decided that a doctor may be summoned as a witness, and be made to give a medical opinion without compensation.

— French physicians consider the extract of pimentum a valuable revulsive. It is less volatile than mustard, less irritating than antimony and croton-oil; begins to act in from ten to thirty minutes, causing heat, a slight tingling and redness, which increase for about three hours and then remain stationary.

— The *Medical Examiner* says that thirty-eight females are studying for the medical profession at the universities of Bonn and Zürich.



— The meeting of the Fairfield County (Conn.) Medical Society was rendered especially interesting by a rather novel case in medical ethics. The wife of a well-known practitioner several years since started in practice as a homœopath, and as a natural consequence matters became rather "mixed" in the way of consultations and the like. The case was fairly tried in the presence of the accused, and after a protracted debate and balloting resulted in a vote for expulsion, which must be ratified by the state society.

— Mr. Augustus Sala, in the *London Illustrated News*, says: "It strikes me very forcibly that, so far from being 'fleeced' by the general practitioner, we are often apt (unconsciously, of course) to fleece him by cruelly deferring the payment of his bill. Why should we make him wait six months or a year for his due? He has his rent and taxes, his butcher and baker to pay, as we have, and very frequently his carriage to keep. Is he to eat lint or stethoscopes, or sustain nature by the hypodermic injection of morphia or the external exhibition of collodion? We should pay our doctors promptly, and then we should know what they are charging us for."

— Dr. Tappeiner has proved by experiments in Buhl's laboratory at Monaco that phthisis is contagious. Mixing the sputa of a consumptive with water, he caused five dogs to inhale the same in the form of spray. Two of the animals were also obliged to swallow a portion. After a lapse of six weeks the dogs were killed. They presented a general miliary tuberculosis of lungs, liver, and kidneys, and, in the two which had swallowed the matter also, of the digestive apparatus. Carmine, which had been mixed with the inhaled liquid, showed that it had penetrated into the pulmonary cells. Professor Buhl established these results by making the microscopical examination. It is suggested that these experiments are an indication that the air of apartments occupied by phthical persons, and not well ventilated, may become dangerous to healthy persons living in the same quarters. See the *Canada Lancet* for May 1st.

— Statistics show that mortality among the Germans of New York city is thirty-eight per cent. less than that of any other class of citizens, while their increase by births is larger.

— Nashville, Tenn., has a medical college for the colored race.

— At a meeting of the Illinois State Board of Health, held at Cairo, November 15, 1877, the following resolutions were unanimously adopted:—

*Resolved*, That on and after July 1, 1878, the board will not consider any medical school in good standing which holds two graduating courses in one year.

*Resolved*, That on and after July 1, 1878, the board will not recognize the diplomas of any medical school which does not require of its candidates for graduation the actual attendance upon at least two full courses of lectures, with an interval of six months or more.

## LETTER FROM PHILADELPHIA.

*Expert Testimony. — Legal Sacredness of Professional Confidences. — Female Physicians and the Medical Societies. — The Commercial Value of an Alumnus.*

MR. EDITOR, — Physicians here have two standing grievances with our courts of law. The first is the prevailing practice of requiring expert testimony from a witness who happens to be a medical practitioner, regardless of the fact that he may not be qualified to give expert testimony, and equally oblivious of the certainty that if it is valuable nothing will be given as an acknowledgment in return. In either case the tendency is the same, — to lower the value of medical testimony and the dignity of the profession. The other grievance is one that affects the physician's honor rather than his honorarium, and events have occurred recently to bring it prominently before the notice of the profession. I refer to the right assumed by some courts of insisting that a physician shall publicly divulge private affairs which had been confided in order to enable him to prescribe intelligently for his patient. The fact that a law protecting physicians from this violation of sacred confidence has been adopted by other States, its wisdom having now been tested by an experience of fifty years in the neighboring State of New York, has finally induced our medical societies to move in the matter. A concurrent resolution was passed recently by the Philadelphia County Medical Society, the College of Physicians, and the Obstetrical Society, petitioning the legislature for the passage of an act providing that —

“No person duly authorized to practice physic or surgery shall be allowed or compelled to disclose any information which he may have acquired in attending any patient in his professional character, and which information was necessary to enable him to prescribe for such patient as a physician, or to do any act for him as a surgeon.”

This act has been duly presented and referred.

The Obstetrical Society is now struggling with the question of admitting lady members, the application of a prominent female practitioner having dropped the bomb-shell into the camp. Since the University of Pennsylvania admitted female students to one of its departments, and since the recent visit of Mrs. President Hayes to our Women's Medical College, the ladies are justly elated by their twofold official recognition, and feel encouraged to assert and demand their rights, “which, knowing, they dare maintain,” and to insist that all the barriers shall be broken down that separate them from the modest medical man, who apparently is so deficient in gallantry as to prefer solitude or the house-top to their company.

Although it has been publicly announced that female students attend the auxiliary medical course at the University, they are for the present refused admission to certain of the lectures. The fact, however, that they are accepted as students, and as such are permitted to attend regularly in the medical department, is a substantial victory for their advocates. Having carried the outposts, they have only to wait, and the surrender at discretion will be all that remains for their opponents.



In regard to the medical societies, the ground taken by some members is that they have no right to exclude any duly qualified practitioner who is in good standing; that the societies belong to the profession and not to individuals. It is evident that these societies have a double character: they are designed for the advancement of science and for the promotion of social intercourse and good feeling in the profession. As a scientific body, it would seem that a medical society could not consistently exclude any one on the score of sex, — mind has no sex, — but as a social body it can decide on the personal qualifications of applicants, and reject them, if it choose, on purely personal grounds. Opinions on this question will vary just in proportion with the prominence given to the scientific or to the social element in each member's estimate of the function of the medical society.

At the County Medical Society, recently, a case of delirium tremens from the prolonged use of chloral hydrate, occurring under the notice of Professor Da Costa, was reported by Dr. F. Woodbury. The patient, a man of nervous temperament, after taking, on his own responsibility, from sixty to ninety grains per diem for nearly four months, discontinued it abruptly at the solicitation of his friends. An attack of delirium tremens supervened, characterized by hallucinations, great muscular weakness, but principally by continual efforts to leave the bed and walk about the room. He recovered in a few days with the aid of morphia, food, and stimulants. The general opinion expressed during the discussion among the members was that chloral, if pure, may be continued for a long time under medical supervision without causing any bad effects whatever in the majority of cases.

Dr. Charles I. Turnbull, of this city, with the author's permission, has translated Professor Arlt's work on Injuries of the Eye and their Medico-Legal Aspect. It was written for the general profession, and not solely for the specialist, and has its scope well presented in the title. Dr. Turnbull has furnished a translation unusually free from traces of the German idiom, and it is printed with clear type on good paper.<sup>1</sup>

In the number of the JOURNAL for April 25, 1878, was published the total number of graduates of certain medical colleges in March last, showing that seventeen colleges graduated one thousand three hundred and forty-one alumni. The old question as to what will become of them all is perhaps in a measure solved by the following, which recently appeared among the commercial items in one of our evening papers: "Room for about 500 barrels alumni has been secured by a Philadelphia house for shipment to Bremen for Baltimore, per Germantown bark *Jesonda*, at 27s. 6d. per ton." The average and aggregate value of alumni seems to have become at last definitely ascertained, and communities may now improve the opportunity of disposing of any superfluous specimens at a very reasonable rate.

PHILADELPHIA, *May 3*, 1878.

<sup>1</sup> Philadelphia: Published by Claxton, Remsen, and Haffelfinger. 1878. 8vo, pp. 198. Cloth.

## COMPARATIVE MORTALITY-RATES.

	Estimated Pop- ulation, July 1, 1878.	Deaths during week ending May 11, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean for ten Years, '63-77.
New York.	1,093,171	455	21.64	23.42	28.71
Philadelphia.	876,118	297	17.63	18.80	21.54
Brooklyn.	549,438	149	13.34	21.51	25.50
Chicago.	460,000	110	12.43	17.83	22.39
Boston.	375,476	109	15.09	20.10	24.34
Providence.	100,000	28	14.56	18.81	19.20
Lowell.	55,798	12	11.18	19.09	22.50
Worcester.	54,937	13	12.31	14.07	22.30
Cambridge.	53,547	14	13.59	18.69	20.83
Fall River.	53,207	18	17.59	21.35	24.96
Lynn.	35,528	6	8.78	20.42	19.67
Springfield.	33,981	8	12.25	16.04	19.77
Salem.	27,140	4	7.66	20.38	21.15

SUFFOLK DISTRICT MEDICAL SOCIETY. — A special meeting will be held at the rooms, 36 Temple Place, on Saturday evening, May 25th, at seven and a half o'clock. The following papers and cases will be read : —

Dr. H. O. Marcy, The Radical Cure of Hernia by the Antiseptic Use of the Carbolized Catgut Ligature.

Dr. E. W. Cushing, Sun Spots and Epidemics.

Dr. B. J. Jeffries, Relative Frequency of Color-Blindness in Males and Females. Tests for Color-Blindness.

Tea, etc., at 9 o'clock.

MIDDLESEX EAST DISTRICT MEDICAL SOCIETY. — The annual meeting of the society was held in Stoneham, May 8, 1878. The following officers were elected : President, Francis F. Brown. Vice-President, Daniel W. Wight. Secretary, J. Richmond Barss. Treasurer and Librarian, John O. Dow. Auditor, F. F. Brown. Reporter, F. Winsor. Councilors, W. S. Brown, J. O. Dow, F. Winsor. Censors, S. W. Abbott, A. H. Cowdrey, Charles Jordan, W. F. Stevens, Jr., D. W. Wight. Commissioner on Trials, F. Winsor. Councilor for Nominating Committee, F. Winsor. J. RICHMOND BARSS, *Secretary*.

CONNECTICUT MEDICAL SOCIETY. — The eighty-seventh annual convention of the society will be held at New Haven, May 22 and 23, 1878. Officers : President, Robert Hubbard, M. D. Vice-President, C. M. Carleton, M. D. Treasurer, F. D. Edgerton, M. D. Secretary, C. W. Chamberlain, M. D. Committee on Matters of Professional Interest, W. A. M. Wainwright, M. D., H. W. Buel, M. D., Ashbel Woodward, M. D.

The following papers will be read : Insanity in its Relation to Law, Dr. A. M. Shew. Report of Committee on Matters of Professional Interest, Dr. Wainwright. Report of Committee on State Board of Health and on Vital Statistics. The Ætiology and Treatment of Puerperal Convulsions, Dr. L. S. Paddock. Antiseptic Surgery, Dr. G. P. Davis. Uterine Contractions as a Hæmostatic, Dr. E. P. Swasey. A Review of the Surgical Literature of the Year, Dr. W. A. M. Wainwright. Nitric Acid in Uterine Hæmorrhage, Dr. S. G. Hubbard. The Treatment of Thecal Abscess and Carbuncle, Dr. B. F. Harrison. Cardiac Thrombosis, Dr. I. W. Lyon. The Stimulant Treatment of Phlyctenular Ophthalmia, Dr. W. T. Bacon. Cough from Recurrent Laryngeal Congestion, Dr. C. W. Chamberlain. Hemiplegia Alternans, Dr. W. C. Burke. Extra-Uterine Pregnancy, Dr. E. F. Coates.

Annual dinner at three P. M.

C. W. CHAMBERLAIN, M. D., *Secretary*, Hartford, Conn.



# THE BOSTON MEDICAL AND SURGICAL JOURNAL.

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## A PECULIAR CONDITION OF THE CERVIX UTERI WHICH IS FOUND IN CERTAIN CASES OF DYSTOCIA.<sup>1</sup>

BY ALFRED HOSMER, M. D. HARV., WATERTOWN.

THE above subject is not a new one to this society. At the regular meeting in February last attention was called to it by a paper which was afterwards presented to a larger audience in the pages of the JOURNAL, March 21, 1878. It is now brought forward again for the purpose of considering, firstly, the relation existing between the condition in question and the ordinary post-partum hour-glass contraction; secondly, the cause of the extraordinary difficulty which, in all the cases reported, presented itself to the accoucheur; and thirdly, the proper treatment of such cases. It was in November, 1876, that this subject received its first introduction and imperfect definition among ourselves by the relation of a case which was designated as one of ante-partum hour-glass contraction of the uterus. At that time the reporter understood neither the true state of things in the case then detailed, nor the exact nature of that with which it was compared. It was assumed with perfect propriety, as it now appears, that an identity existed; yet there was an imperfect appreciation of the individual cases, each of which was marked by the same exceptional features. And when a new anatomy and physiology of the womb brought an explanation of a certain fearful irregularity in labor, it was at first supposed that the descriptive title of the original communication implied a serious misnomer. On the contrary, the correctness of that title is fully affirmed by the latest words that obstetric medicine has spoken. Upon this point it is only necessary to cite the opinion expressed by Playfair, and already quoted in the first paper. To such testimony none can object. But in this connection we would note a curious fact, and admit the force of the evidence that proves the irresistible power of tradition, which may be defined as the habit of the human race in thought and action. Upon the very same page this writer clearly states the parts that are played by the internal os and the elongated cervix in the production of an hour-glass contraction, and represents that condition by an illustration which

<sup>1</sup> Read at the meeting of the Obstetrical Society of Boston, May 11, 1878.

can scarcely be distinguished from that used by Ramsbotham in his elaborate work, the preface to which is dated in 1841, thirty-five years before Playfair, by the publication of a systematic treatise on midwifery, sought a position among obstetric authorities. In that illustration the constriction is midway between the os and the fundus; the two cavities are the same in shape and capacity, and their walls are of equal thickness. If not overlooked, this contradiction and inconsistency must lead the thoughtful man to careful reflection, and even if he is not fully convinced of the necessity of laying aside the view that has been so long taught and accepted, he at least will enjoy the benefit that comes of being unsettled in doubt instead of fixed in error. But it is to be feared that the wood-cut, with the advantage of making the first impression upon the attention, will still take precedence of the text, and continue to work mischief by perpetuating an idea which has hitherto misrepresented a fact in science. It appears, then, that the following statement embodies the most reliable conclusions that have been reached in this connection: There is a condition of the uterus which may be found before as well as immediately after the completion of labor, and in which, by reason of a disproportionate contraction of the internal os, a constriction is produced which divides the organ into two cavities, the upper one being contained in the body of the womb, and the lower one formed by an elongation of the cervix. The relative capacity of these two cavities is not a constant ratio.

From what is known of the distribution and arrangement of the uterine muscular fibres it almost seems as though it might have been inferred, *a priori*, that it is only at the internal os that it would be possible to have a constriction so limited in extent, so distinctly defined, and so symmetrical as the one that has been described.

This attempt to explain these cases of dystocia will regard the deformed and laboring uterus as an inseparable and, in its position above the pelvic brim, as an immovable part of the body, forming like the pelvis itself a portion of the *terra firma* of the patient. It may be well to remember that the uterine action instead of producing a progressive descent of the fundus, and thereby bringing it nearer to the external os uteri, separates the two ora, approximates the internal os to the fundus, and leaves the latter very nearly if not quite at its original level.

In the search for a cause of the difficulty in question, we naturally ask to what extent it may have depended on pelvic malformation. This condition undoubtedly contributed its share in the cases of Drs. Stone and Arnold. But in Cases III. and IV. nothing of the kind was recognized, and thus they confirm the views of Bandl, who maintains that this extraordinary state of the cervix is found only when the deviation from the normal dimensions is extremely slight, so that the foetal head, without being absolutely excluded, is not able to engage fully in



the superior strait. The degree of contraction which he has in mind might easily be overlooked, and certainly falls very far short of reaching that narrow diameter which authorities have fixed as the minimum that will permit the passage of a child with or without instrumental assistance.

The solution of the problem must be sought elsewhere ; it must prove to be the expression of some physical or physiological law, and will be found in the relations existing between the fœtus and the different portions of the uterus. Firstly we will consider the agency of the cervix. With a given amount of material, distributed in any form, that of a hollow cylinder for instance, any variation of one of its dimensions must be accompanied by a compensatory change in some other dimension, assuming the density to be constant. The application of this fact to my present purpose is admirably illustrated by the operation of a plaything called a finger-trap, the product of Japanese ingenuity. It consists of a cylinder of basket-work, made of strips running in a spiral direction, and of loose texture, so that the ratio between its length and its diameter can be made to undergo a very considerable change. If the finger is pushed into it, a little friction is advantageous, for the reason that it makes the trap a little shorter, and thereby gains a little space in the transverse sense. The finger once placed, the slightest effort to withdraw it elongates the cylinder, and produces a corresponding diminution in the diameter, and the unfortunate member is held with a firmness which is directly proportional to the amount of tractive force that is applied to it. To pull it out is scarcely possible, but it can easily be released by a very obvious and simple manœuvre which deals directly with the trap.

In the cases, the difficulty of which we are trying to explain, the head and more or less of the trunk of the child are inclosed in a hollow cylinder of living tissue, which is endowed with certain physical properties, so that the pressure upon its contents which depends upon transverse tension is directly proportional to the amount of elongation. The use of the forceps as an instrument of traction must tend to elongate the cervix, especially in those cases in which the lips of the external os are found in advance of the head and within the superior strait. The accoucheur is virtually and ineffectually pulling against himself, for the secondary effect of his effort is to increase the strength of the grasp with which the cervix holds the fœtus, and thus to make progress impossible. Uterine action, whether spontaneous or induced by the manipulations of the obstetrician, leads to precisely the same result. By adding to the length of the cervix it tends to shorten its diameters, and fixes the child more firmly than ever in its abnormal relations. The muscular power of the womb is the active factor in the production of the deformity in question, and if we consider the point upon which

it makes its first impression it will be evident that the tenuity and tension of the cervical tissue will find their minimum at the external os and their maximum near the internal os. It is not the head, therefore, but a portion of the child's body that will be held with the greatest force. It may be objected that such is the character of the foetal and intra-cervical surfaces, and such the facility with which one must move upon the other, that our theory is invalidated. The answer is that in no longitudinal section of a child are the outlines parallel, and that irregularities of surface are well marked, and furnish a sufficient number of points of resistance. Farther, no matter how smooth or well lubricated two surfaces may be, they can be maintained in contact with such force that the friction produced will seriously interfere with all motion.

Now let us ask if the internal os is responsible for any portion of the difficulty under consideration. As it forms the substance and sharpness of a prominent constriction which makes a startling impression upon the hand which, without previous knowledge, touches it for the first time, it is possible that it has been spoken of with too strong an emphasis, and that in some cases an undue importance has been attached to it. In Case I., in which the condition of the uterus was perfectly typical, the internal os, in its contraction, seemed to grasp and hold the foetal pelvis like an enormous sphincter, which might reasonably present a certain obstacle to the successful exertion of force applied through the parturient passages, and thus embarrass the operation of extraction. If it is capable of thus acting with any considerable influence, it might at first seem to be an easy matter to draw it down to the brim of the maternal pelvis. But the cervical wall, although attenuated and in itself soft and flexible, cannot be rapidly shortened unless it is folded upon itself by being thrown into transverse wrinkles, and this process involves a change in some of the various diameters of the cervix. That dimension cannot be lessened at any point by reason of the contents of the cavity, and it cannot be increased, for the canal is practically stretched to its utmost. In mechanics the strength of material is intimately connected with the permanence of particular forms, with or without relation to vertical and horizontal lines. So the uterine neck may stand like a tubular brace, abutting against the pelvis below, and above maintaining the internal os in its position against any tendency to move downwards.

Whatever may have been the share contributed by the internal os to the difficulty in the case (I.) alluded to, it would seem — and this judgment is based only on clinical reports — that there are instances in which its agency is plainer and more potent. In the patient observed by Dr. Adams the foetal head was contained in the cavity of the cervix, and was there delayed less for reasons contained in that portion of the foregoing explanation which attempts to estimate the influence and mode of action of the uterine neck, than on account of the immobility deter-



mined by the internal os, which, contracting about the neck of the child, held it with a grasp that was Titanic as well as tetanic. And thus a segment of the muscular portion of the womb, which normally possesses no such unyielding and invincible rigidity, may obstruct labor precisely in the same way as would be done if, after the birth of the head, the two branches of the pubic arch, each in its whole length, should be extended towards the median line, so far and in such a way as to leave between them, just beneath the symphysis, only sufficient space for the foetal neck. Then we must recognize two classes of cases; in one<sup>1</sup> the constriction encircles the child at a point just in advance of the shoulders, where it is firmly held; and in the other it has allowed the shoulders to pass through it, so that it is free to move backward along the trunk, and thereby facilitates the exaggeration, to such surprising degrees, of that elongation of the uterine cervix which, within certain limits, is a portion of the process of normal labor. Whatever theory may be ultimately accepted by science in explanation of this particular form of dystocia, it will be of secondary importance and of little practical use unless it shall point out a method of management which does not carry intrinsic dangers, and shall not consist simply in changing the time and manner of the mother's death, not to speak of the almost hopeless prospect of the child.

In here opening the discussion of the question of treatment little can be done beyond setting forth some of the details of the eleven labors which, by report or reference, were alluded to in the other paper, and making a careful study of them in their relation to the ordinary resources of obstetric surgery. For a very obvious reason we inquire first as to the efficiency and value of the forceps. We find that in nine cases this instrument was resorted to before any other means of artificial delivery, and that in them all it failed to accomplish anything. In one instance, that of a second labor, no attempt was made in this direction, apparently because it had proved to be useless in the first confinement. In another case (III.), that of a woman who died undelivered, although the notes in my possession do not distinctly state what was done, there can be no reasonable doubt that the forceps found a first place among the several unavailing expedients. These facts must incline us very strongly to the conclusion that in these cases it is use-

<sup>1</sup> Well described by an American authority, now almost forgotten, although eminent in his own day, and generously endowed with that common sense whose value can never depreciate. His method of treatment was by blood-letting. He says, "It is the only remedy with which I am acquainted that has a decided control over the contracted uterus; it is one almost certain of rendering turning practicable under such circumstances if carried to the extent directed. A small bleeding in such cases is of no advantage, for, unless the practitioner is determined to carry it to its proper extent, which is a disposition to or the actual state of syncope, he had better not employ it." He insists upon the importance of producing the desired effect economically and without unnecessary waste of the forces of the patient. (*A Compendious System of Midwifery*, eighth edition, 1837, by William P. Dewees, M. D., page 250.)

less to undertake to deliver women with the forceps. And this conclusion is sustained by theoretical considerations if the relations between the fœtus and the different portions of the uterus are such as have been suggested. But simple uselessness may not be the worst feature of this mode of interference. Professor Breisky (Bern) declares that "in manipulations designed to facilitate the delivery of the head situated high up it will be necessary to bear in mind that as it comes down it may remain fast in the dilated cervix, in which case severe traction may prove dangerous."

Next concerning the operation of version, since that, offering for the child some degree of safety, would naturally take the second place. In six of the ten cases in which it was attempted it proved to be an impossibility, while in the other four it was the means of terminating the labor. Of these four two were fatal, and the other two, in each of which both mother and child were saved, contain all that can be urged in its favor. But the facts would have a larger significance if they were derived from different patients instead of representing two labors in the same woman. In addition to the probability of failure, which clinical experience seems to have established, there are other most cogent reasons for looking with suspicion upon this measure. Bandl has shown how the mere introduction of the hand may overcome the tensile strength of the cervical wall, and produce a lesion no less grave than rupture of the uterus. We cannot doubt that the accoucheur who is resolved upon version will be induced to exercise an amount of force which almost deserves to be called brutal, and which may easily result in that degree of shock and depression from which the female of average reactive power cannot recover. I should not dare to repeat the energetic efforts which, upon an occasion already described, were made with my approval and assistance. Any perseverance that may then have been exhibited must not be mistaken for courage; the latter quality is needed only when there is an intelligent sense of danger.

In seven cases in which craniotomy was resorted to, in four only did it determine the extraction of the fœtus, so that there is no large percentage of success, taken in the limited sense of delivery, to recommend this operation. Yet it is but fair to state that the four mothers were all saved. In condemnation of this method stands the inevitable destruction of the child.

There is a curious numerical relation between the results obtained in the craniotomy cases and those presented by the series as a whole. On the one hand, seven labors included fourteen lives, of which four were saved, and the mortality was a little more than seventy per cent. On the other, eleven labors included twenty-two lives, of which nine were saved, and the mortality was fifty-nine per cent. But all lives are not of equal importance. The child, when judged by the maternal standard, has only a fractional value.



Should evisceration be proposed, it is only necessary to remark that it is open to objections which lie against other methods that have been considered. The subcutaneous injection of morphine, venesection, and chloral have been suggested to me by letter or in private conversation. Although my present impressions do not incline me hopefully towards either of them, it is possible that future experience will be able to define the conditions under which each one may have a useful and successful application.

It remains only to discuss the propriety of resorting to Cæsarean section as a remedy for this form of difficult labor. The lamentable and unsatisfactory results which I have been forced to present as associated with the ordinary methods of obstetric interference demand a careful study of any procedure, however unusual and exceptional, which has ever assured the safety of life in the lying-in chamber. We must make a discrimination between those measures which, *per se*, determine death and those which fail to prevent it. The peril of this operation must not be estimated by the number of women *per centum* who have died after it, and upon some of whom it has been performed under circumstances of such exhaustion and depression that no other result could be anticipated. We can obtain a much more accurate idea of its intrinsic dangers from the mortality which is found in the statistics of ovariectomy, although at present it is impossible to arrive at a conclusion which can boast of any considerable exactness. Many women have survived it; some even have not found its repetition to be fatal. Of it Dr. Thomas says: "I am perfectly willing to admit that many cases in which craniotomy has been resorted to in the past would have been more appropriately treated by this operation, and, as I firmly believe, that in the future the Cæsarean section will be more frequently resorted to and with better results." Radford is persuaded that "the risk to infants in Cæsarean births is not much greater than that which is contingent on natural labor, provided correct principles of practice are adopted." And as having a direct bearing upon this question is the opinion of Playfair, who, in speaking of the treatment of uterine rupture, with escape of the foetus, allows us to infer that with gastrotomy "the chances of recovery are at least three or four times as great as when the more usual practice is adopted."

With the support of such testimony, and in view of the uselessness of forceps, the difficulties and dangers which attend all attempts at version, the grave objections which array themselves against craniotomy and evisceration, and above all the terrible mortality which we have observed, it seems to me that whenever this peculiar condition of the cervix has been developed it is the first duty of the accoucheur to terminate the labor by abdominal section. The importance of an early recognition of the uterine deformity is in close relation with the necessity of immediate interference, to the absolute exclusion of the expect-

ant method. Let the mother, the child, and the obstetric art have the advantage of dealing with the full measure of vital power on the part of the patient. The directions which are given in the books for doing the operation imply a vertical incision in the body of the womb. In our special case there are obvious reasons why the opening should be made in the neck. It is possible that a transverse cut would be better than the ordinary one.<sup>1</sup> It would allow the anterior portion of the cervix to shorten itself at once, and thus would bring some relief to the pressure which holds the fœtus with such tenacity. As the elongation is abnormal, while the transverse distention is only natural, the subsequent contraction of the tissues would more completely close the wound made crosswise, whether its edges were brought in apposition by sutures or not. A certain assistance might also be obtained afterwards from the descent of the uterus into the pelvis.

But Cæsarean section is not the only operation which delivers the child through an artificial passage in the abdominal wall. In a paper<sup>2</sup> from which we have already quoted, Dr. T. Gaillard Thomas describes the process of gastro-elytrotomy, and sets forth the advantages which he believes it to possess over the more ancient mode of approaching the uterine cavity from above the pubes. In this procedure delivery is effected through an opening made at the vagino-uterine junction, which is reached, without wounding the peritonæum, by means of "an incision extending from the spine of the pubis to the anterior superior spinous process of the ilium." Whatever may be the safety and facility which constitute the recommendation of this operation, the question inevitably arises as to the degree of danger that there will follow it a tendency to hernial protrusion which cannot be conveniently and effectually counteracted.

I do not forget how large a proportion of the theoretical element enters into some of the views that have been advanced, and thereby impairs their value. If they are correct, the testimony of other observers will confirm them. But if they are unsound, let them provoke such criticism and move to such investigation as shall expose their weakness and assist obstetric science to take at least one step more in the direction of the truth.

Hereafter let every practitioner remember what agents of discovery he has in his own hands if applied to the abdomen of the pregnant woman under the guidance of modern instruction. In each case of retarded labor let him bear in mind the possible existence of an elongated cervix, and seek for it in that manner which can cause in the parturient little inconvenience and no shock, namely, external palpation. Should misfortune compel him to confront one of these terrible cases, let him

<sup>1</sup> This suggestion has no reference to those cases in which the internal os is so firmly and closely contracted around the child's neck.

<sup>2</sup> American Journal of Obstetrics, vol. iii., page 125.



study it carefully with reference to any previous diseased or unnatural condition of the uterine neck, and any existing deformity of the pelvis, however slight, and also in relation to such treatment as may be instituted. And if a still greater misfortune should render null and void all his efforts, and if death should be the fate of his patient, let him not fail to bring to this subject the benefit of necroscopic scrutiny ; let post-mortem observations and experiments aid us with suggestions that have a better origin than hypothesis, and enrich us with some well-established facts.

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## A NEW APPARATUS FOR FRACTURES OF THE LEG.<sup>1</sup>

BY T. B. CURTIS, M. D.

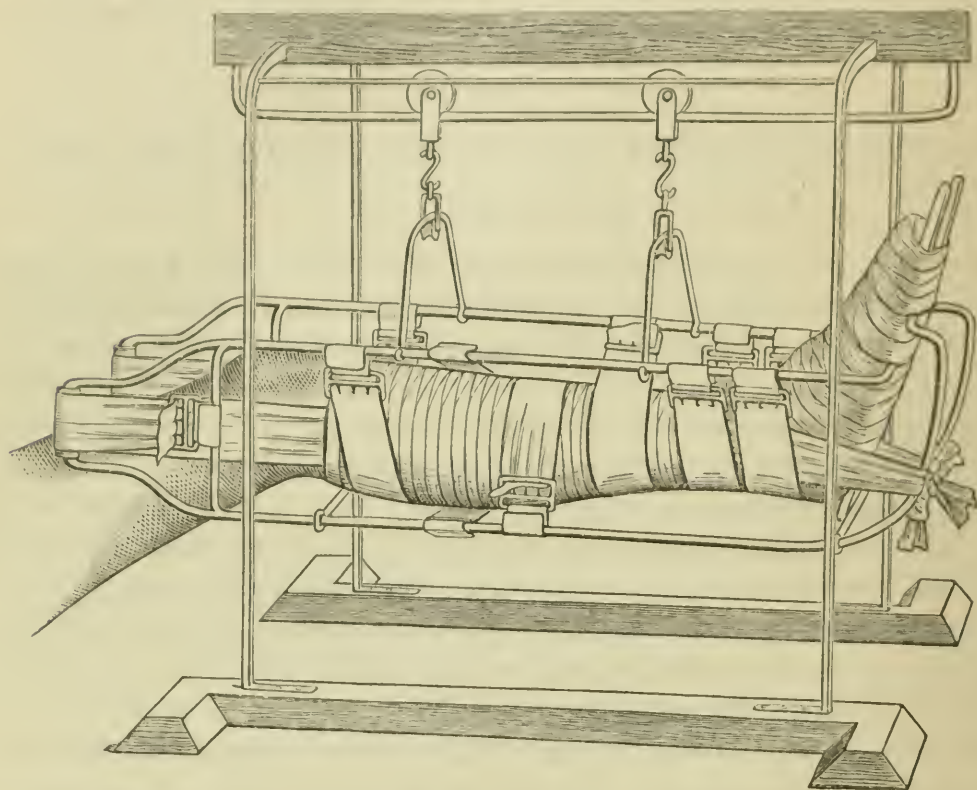
FRACTURES of the leg are often easy enough to take care of, almost any apparatus sufficing to keep the broken bones in good position till union is effected. Occasionally, however, serious difficulties are encountered. Such is particularly apt to be the case with oblique fractures. These are often situated within the lower third of the leg, the line of fracture being usually directed downwards, forwards, and inwards. In such cases the upper fragment rides in front of the lower one, and, as a consequence both of the obliquity of the break and of the shortening of the limb, the extent of the overlapping is sometimes considerable. Owing to the action of certain secondary agencies, namely, muscular contraction (of the muscles attached to the tendo Achillis and of the quadriceps femoris) and the weight of the foot, if the latter is left unsupported in order to spare the heel, an angular displacement backwards is often added. When this occurs, the lower fragment, engaged behind the overlapping upper one, exerts upon the latter a powerful leverage, the effect of which is to pry its lower extremity forwards against the skin. So forcible and persistent is the pressure exerted in this way that sometimes the sharp, chisel-like end of the upper fragment finally perforates the overlying integument.

To overcome all the difficulties caused by this displacement various devices have been resorted to, among which may be mentioned the following: section of the tendo Achillis, suggested by Laugier to annul the action of the muscles of the calf; Malgaigne's pointed screw, to repress the projecting upper fragment; Pott's splint, the object of which was to relax the muscles by flexion, while injury to the heel was avoided by laying the limb on its side.

By means of the apparatus here represented, I believe that the indications usually presented in oblique fractures of the leg, simple or compound, are satisfactorily met. It consists mainly in a frame-work of strong iron wire (of calibre 20 Charrière) so bent to and fro as to

<sup>1</sup> Shown before the Boston Society for Medical Improvement, January 14, 1878.

make a sort of skeleton fracture-box, with four longitudinal wire splints, and a foot-piece inclined at a proper angle. The wires are connected by sliding cross-bars, which give firmness to the entire frame-work. The two upper cross-bars serve to suspend the apparatus in a Salter's cradle by means of two pairs of pulleys, and are curved so as to allow the lower pair of pulleys to travel transversely through an arc of about thirty degrees. The limb is thus allowed to find naturally its position



of greatest ease, which is an attitude of slight rotation outwards. The object of this arrangement<sup>1</sup> is to avoid consolidation with inversion of the lower fragment and foot, a result which is sometimes found to have occurred when the foot has been kept vertical in a fracture-box throughout the treatment. Free antero-posterior motion is obtained by means of another pair of pulleys traveling back and forth along the longitudinal wire at the top of the cradle.

Adhesive-plaster extension is provided for in the following manner: at the upper end of the frame, on either side, are projecting arms, formed of loops of wire, on the vertical portions of which, as axes, rotate a pair of upright spools of hard rubber, five inches apart. The counter-extension strips of adhesive plaster are reflected around these spools, and thence pass downwards to a pair of buckles, by which they can be drawn tight. The extension strips, on the other hand, are fastened around the lower end of the frame, below the foot-piece.

<sup>1</sup> Since writing the above remarks I have seen a description of a somewhat similar contrivance for suspension, devised by Dr. Geo. A. Van Wagenen. See the New York Medical Record, 1873, page 145.



The limb, secured by the tightened strips of adhesive plaster and by the foot-piece, without pressure upon the heel, occupies the axis of the frame-work. Accurate coaptation is then effected and maintained by means of strips of bandage suspended to the wire splints by as many pairs of buckles with S-shaped attachments. In default of the latter, strong pins might perhaps suffice to fasten the bandages to the wires. The leg, exposed to view on all sides, as shown in the wood-cut, is thus supported at various points, and any tendency to displacement of either fragment in any direction is readily recognized and obviated. If the upper fragment, for instance, is seen to project forwards, as is so often the case, it can be effectually restrained by means of a strip of bandage buckled on to the two lower wires in such a manner as to exert direct downward pressure upon the protruding fragment. The position of this strip should be slightly varied from day to day, to avoid the ill effects of long-continued pressure on one spot ; and if necessary a short coaptation splint, properly padded, can be applied to the limb underneath the strip of bandage. By this simple means the displacement for which Malgaigne devised his pointed screw is effectually prevented. If, on the other hand, the fragments show a tendency to become displaced inwards or outwards, they can easily be kept in proper position by means of bandages so arranged as to exert lateral pressure at any point in either direction.

Such is the apparatus and its mode of application. This use of four wire splints surrounding the limb on all sides without being in contact with it or concealing it, and controlling the fragments by means of semi-encircling loops of bandage, is, so far as my knowledge goes, a novelty. The apparatus proved successful in two cases in which it was applied by me at the Necker Hospital in Paris, when *interne* under Professor Guyon in 1872. Both were cases of compound fracture, which had been doing badly in wire *gouttières*. Both began to get well as soon as the limbs were placed in this apparatus, which, however, did not then comprise extension by adhesive plaster, the limb being supported by a posterior wire splint.

Suspension I believe to be a valuable means of treatment, insufficiently utilized by the profession. When the injured limb is immobilized, anchored, as it were, to the bed, in a heavy fracture-box, every displacement of the patient's body is directly transmitted to the upper fragment, while the lower one must perforce remain motionless ; the former, impelled from above as the patient sinks towards the foot of his bed, is forcibly driven downwards over the latter. Moreover, with every slight movement, be it only a cough or a sneeze (as may be seen by watching the exposed ends in a compound fracture), the sharp end of the upper fragment is kept digging at the superjacent skin, until perforation sometimes ensues. But when the leg swings freely, the

upper fragment cannot move independently of the lower one ; the entire limb sways back and forth, without any motion taking place between the broken ends, whose relations remain undisturbed however restless the patient may be. He can thus be allowed some liberty of motion, so that his position is much less irksome than it is when his broken limb is kept motionless, with the expectation that he will remain so likewise. This is, however, not the only way in which suspension is of benefit. It also serves a useful purpose by keeping the limb flexed, whereby the muscles of the calf are relaxed, and the liability to angular displacement with projection of the upper fragment forwards is counteracted. It is true that flexion at the knee only would increase the tendency of the anterior muscles of the thigh, acting through the ligamentum patellæ, to raise the upper fragment, but the accompanying flexion at the hip-joint, by which the quadriceps femoris is relaxed, fully compensates for this unfavorable action. For these reasons a position of flexion at both knee and hip, as in Pott's method of treatment, seems preferable to the straight or extended position.

Extension by means of adhesive plaster is resorted to in this apparatus ; rather, however, for the sake of the additional support which is thereby afforded than with the idea of diminishing the extent of the overlapping by drawing down the lower fragment. It must often be extremely difficult, if not impossible, to elongate the shortened limb by this means, for, when extending and counter-extending strips of plaster are so arranged as to pull against each other through an intervening patch of tightly-stretched skin, each must be effectually antagonized by the other. It can hardly be possible to draw down the lower fragment by this means,<sup>1</sup> unless each segment of the broken limb is firmly grasped by circular strips of plaster, prevented from slipping by resting upon bony prominences (malleoli, condyles). Such circular constriction must often be out of the question, especially in compound fractures, where the vulnerability of the soft parts is greatly increased.

In compound fractures this apparatus seems to offer some advantages. The strips of bandage can be so arranged that the wound remains readily accessible for changes of dressings, and, if soiled, they can be removed or changed singly, with little or no disturbance of the limb. If necessary the wound can be laid bare and thoroughly washed, a basin being placed beneath the leg.

My chief object in publishing this description of my apparatus has been to call attention to the resources afforded by a new form of wire frame-work taking the place of a fracture-box. Such a frame can readily be made by a smith, at little cost, from the design of the surgeon, and with a few pulleys and buckles, or perhaps pins, can be made to fulfill all the complex indications of a difficult case. If a Salter's cradle

<sup>1</sup> See F. H. Hamilton on Fractures and Dislocations, fifth edition, 1875, page 496.



be not at hand other means can be employed for suspending the frame, such as the gallows devised by Dr. Van Wagenen,<sup>1</sup> or, better still perhaps, the ingenious contrivance for suspension lately described by Dr. Wm. D. Robertson,<sup>2</sup> in which a really efficient means of extension seems to be provided.

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## RECENT PROGRESS IN PATHOLOGY AND PATHOLOGICAL ANATOMY.<sup>3</sup>

BY R. H. FITZ, M. D.

### PATHOLOGICAL ANATOMY.

*Regeneration of Nerves.* — Gluck<sup>4</sup> has recently conducted a series of experiments with reference to the healing of nerves after they have been cut. The sciatic nerve of fowls and the pneumogastric of rabbits were exposed and cut through, the results of the operation depending upon the subsequent relation of the cut ends to each other.

Immediately after the section was made the nerve fibres projected beyond the retracted sheath, and the myeline escaped. The cut ends were united during the next few days by a grayish-white, translucent tissue. If a considerable portion (one centimetre or more) of the nerve was removed, the intervening gray tissue became converted into a dense fibrous callus, no regeneration of the nerves occurred, permanent paralysis resulted, and the animals died during the subsequent five months. When, however, the cut ends were closely united, without the removal of a portion of the nerve, the results were quite different, being the more favorable the less the displacement. In certain cases where the nerve was simply perforated, longitudinal rows of fusiform cells, surrounded by abundant homogeneous intercellular substance, were found within seventy-two hours after the operation. These bridged over the interval between the cut ends, sometimes extending from a central to a peripheral fibre. After eight days the ends were united by non-medullated nerve fibres, which slowly and gradually became thicker.

When the nerve was wholly cut across, and the ends united by sutures, the healing process took place in a similar manner, more time being required. Within eighty hours after the operation the wound was closed by a gray granulation tissue, in which, within a fortnight, spindle cells arose, apparently from the nuclei of the neurilemma, and served to

<sup>1</sup> Medical Record, 1873, page 145. F. H. Hamilton on Fractures and Dislocations, fifth edition, 1875, page 492.

<sup>2</sup> See the JOURNAL, May 23, 1878, page 662.

<sup>3</sup> Concluded from page 670.

<sup>4</sup> Virchow's Archiv, 1878, lxxii. 624.

unite the cut axial fibres. A differentiation into axis-cylinder and myeline apparently took place later within these cells.

The author considers that the newly-formed fibres arise from these large granular spindle cells, which are to be regarded as of new formation rather than as outgrowths from preëxisting fibres. They resemble ganglion cells rather than those of connective tissue.

The results of the histological examination were confirmed by physiological experiment, the time of the return of the function to the nerve trunks corresponding with the appearances observed under the microscope.

*Diagnostic Value of Epithelium in Sputa.* — Since Buhl, in 1872, declared that acute miliary tuberculosis and cheesy pneumonia could be diagnosticated by the microscopic examination of the sputa before evidences of solidification could be obtained by auscultation and percussion, numerous observers have directed their attention to this subject. The results in the main have been corroborative of the statement of Buhl, although Fischl has maintained that the sputum from a simple catarrh did not differ from that occurring in phthisis. Heitler<sup>1</sup> has therefore endeavored to ascertain whether forms of epithelium are to be found in the sputa from diseases of the lungs terminating in phthisis which do not occur in those pulmonary affections not ending in this disease.

His results have been wholly negative, and he further maintains that it is not always easy to determine whether the epithelium found in various affections of the lung is to be considered as coming from the alveoli. In this respect he agrees with Fischl, who states that epithelium from various parts of the respiratory tract resembles that coming from the alveoli. The only forms which are wholly characteristic of their place of formation are the large pavement cells and the ciliated epithelium. All other varieties may come from different parts of the tract, and may become so altered after being detached that their original form is no longer to be recognized, just as is the case with cells found in the urine.

Attention is called to the greater quantity of epithelium in the sputum from certain cases than in that from others. In abundantly purulent sputum the epithelium is often scanty, while again sputum may be found composed almost wholly of large, round, or angular fatty degenerated epithelium, the pus corpuscles being exceedingly few. The latter variety was present in a case of chronic bronchial catarrh occurring in an otherwise healthy individual. The so-called alveolar epithelium was also observed in a case of pulmonary œdema; at the autopsy, however, the parenchyma of the lung was found to be quite healthy. In many cases of infiltration of the apices these epithelial cells were quite numerous, while in others they were absent. They might even be quite abundant on certain days, while in the same case they were wanting at other

<sup>1</sup> Wiener medicinische Wochenschrift, 1877, xlix. 1185.



times. In such instances there seemed to be no relation between their amount and any evidence of a change in the process taking place in the lungs.

As a catarrhal inflammation of the bronchial mucous membrane is a frequent associate of diseases of the parenchyma of the lungs, it therefore follows that the presence of the epithelium in the sputa may be due to the former, but this catarrh may be quite independent of disease of the lung. Heitler is therefore inclined to lay the greatest stress upon this catarrh as producing the various forms of epithelium in tuberculosis, and sees herein an explanation for the greater predominance of the epithelium in certain cases and its absence in others.

*Endocarditis from Embolism.* — Koester<sup>1</sup> states, as the result of his experience in the examination of cases of acute endocarditis, that micrococci are very generally found in the deposits on the valves. These deposits are sometimes very loosely attached, especially in the most recent cases, and may readily be displaced or overlooked. Their immediate effect is a destruction of the tissue of the valve, necrobrosis, the ulcerative, purulent, exudative, or granulating forms of inflammation being merely reactive processes, determining the different varieties of endocarditis.

In the histological examination of the valves from a case of acute endocarditis Koester found masses of micrococci within and around the blood-vessels of the valve, an appearance which suggested to him that their presence upon the surface in certain cases might be due to the effects of embolism. He would also consider the frequent seat of the micrococci upon the line of apposition of the valves as due to the nature of the arterial distribution here, which is such as to favor the occurrence of embolism. It therefore follows that the parasitic endocarditis is not to be considered so directly the sole cause of peripheral embolism, but may in its turn be caused by embolism from elsewhere.

*Blennorrhagic Endocarditis.* — The occurrence of acute endocarditis in gonorrhœa is reported by Marty,<sup>2</sup> the aortic valves becoming affected. There was neither rheumatism nor metastatic inflammation of the joints. He was able to find nine additional cases in the French literature where gonorrhœa was complicated with disease of the heart or pericardium, the complication taking place four or five weeks after the beginning of the disease. The pericardium was affected in three cases, the endocardium in seven; in the latter series the aortic valves were diseased in four, the mitral in three cases. In eight cases the cardiac affection followed gonorrhœal rheumatism, while in the other two there was no affection of the joints. The complication was generally preceded by a chill, and often attended by a suppression of the urethral discharge.

<sup>1</sup> Virchow's Archiv, 1878, lxxii. 257.

<sup>2</sup> Archives générales, 1876. Centralblatt für die medicinischen Wissenschaften, 1877, xvii. 304.

In the writer's case the discharge returned as the acute cardiac symptoms became mitigated.

He concludes that all the serous membranes may become inflamed during the course of a gonorrhœa, and that such inflammations are in causal relation with the primary disease of the urethra.

*Tuberculosis of the Thoracic Duct.* — Ponfick has of late examined the thoracic duct in all cases of tuberculosis, and has found it unaltered in every case of localized tuberculosis.

In the majority of instances, however, where the tuberculosis was general, numerous minute nodules resembling tubercles were found in its inner coat. This appearance may be regarded as evidence that abnormal lymph containing a specific irritant has passed through the duct.

These nodules afford the only tangible evidence of a fouling of the vascular canals with material whose nature we do not know, but whose presence may be regarded as sure from the striking results shown.

*Exceptional Spotted Kidney.* — A rare form of spotted kidney from a patient who presented the usual symptoms of Bright's disease was shown to the Vienna Medical Society by Professor Heschl.<sup>1</sup> The histological appearances, however, were quite different from those commonly observed in that affection. The yellow streaks and spots were not due to a fatty degeneration of the epithelium lining the tubules, but to the presence of fat in the intertubular tissue. The fat was collected about the tubes in the form of molecules and granular corpuscles, and the interstitial tissue contained an abnormally increased number of lymph corpuscles.

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## PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

O. W. DOE, M. D., SECRETARY.

FEBRUARY 4, 1878. *Cerebral Syphilis.* — DR. POST read a paper upon this subject, which is reserved for publication.

DR. WEBBER remarked that in most of the cases of cerebral syphilis that he had seen the symptoms had been greatly relieved or the patients cured; but in those cases in which the spinal cord had been affected, whether alone or together with the brain, no benefit had been derived from treatment. He attributed this in part to the fact that in the cerebral form the meninges are probably first affected, and the symptoms are so urgent that medical aid is sought early; while in the spinal form the nervous structure is intimately affected, and the disease becomes firmly seated before the patient considers his symptoms of serious moment. In most of the cases he had seen Dr. Webber said there were no secondary symptoms noted by the patient, though perhaps they had existed and had been overlooked.

DR. WIGGLESWORTH remarked that in the *Medical Times and Gazette* of

<sup>1</sup> Wiener medicinische Presse, 1877, l. 1609.



November last Althaus has an article upon syphilis of the brain and spinal cord. Therein he states that neuro-syphilitic symptoms may appear any time within twenty years after the initial lesion, most frequently between the ages of twenty and forty. Cases in which the cord is affected are rare, and in his experience, when the cervical spine was affected, they had almost invariably proved fatal, usually from asphyxia, the thoracic and abdominal muscles and the diaphragm becoming paralyzed, or a permanent condition resembling ataxia had resulted from disorganization of the posterior columns of the cord. Paraplegia, incontinence of feces and urine from paralysis of the sphincter muscles, and paralysis of the muscles of the upper extremities he states to be other symptoms which indicate spinal complication.

Dr. Wigglesworth said that anatomically the characteristic lesions of syphilis of the brain, formerly regarded as meningitis or encephalitis, are now considered to be rather repeated attacks of hyperæmia, syphilomata, or disease of the arteries. Hemiplegia or paraplegia in youthful persons is more common in the male sex, and nine times out of ten is of syphilitic origin. They affect preferably persons of neuropathic constitution, either hereditary or acquired, or are found in cases where the brain is suffering from alcoholic irritation, from over-indulgence in the sexual appetite, or from any undue strain put upon the nerve power. In the cases of repeated hyperæmia the symptoms closely resemble those of the general paralysis of the insane, and with the later and more marked symptoms on the part of the nervous system relapses are common elsewhere than in the brain; thus there is often a simultaneous outbreak of fresh syphilitic manifestations affecting the skin, mucous membrane, or periosteum. The arteries involved are usually the carotids, those forming the circle of Willis, the Sylvian, and the anterior cerebral.

DR. WEBBER asked Dr. Wigglesworth if it were characteristic of patients having the syphilitic poison to bear large doses of iodide of potassium.

DR. WIGGLESWORTH replied that there seemed to be, to a certain extent, an antagonism between the iodide and the late disease products of the syphilitic virus, and the force of the drug being expended in producing absorption of such products the iodide apparently is not secreted to such an extent by the skin as in health; consequently the glands of the skin are subjected to less irritation. As to the general tolerance of the drug by the system, he had known of one and one half ounces of iodide of potassium being given in the day, this quantity being reached by increasing doses, without any symptoms of iodism appearing; and Dr. Taylor, of New York, had given twenty drachms of the drug in a day for syphilitic sciatica.

DR. ARNOLD asked Dr. Wigglesworth how he would explain the intolerance of the drug in so many cases.

DR. WIGGLESWORTH said, First, by idiosyncrasy or special debility on the part of the patient; second, by the administration of the drug when (late) syphilis was not present; third, by impurity of the article used; and especially, fourth, by the increasing of the size of the dose more rapidly than the system of the patient could accommodate itself to such augmentation, when by proceeding more slowly the tolerance of even much larger doses could have been attained.

DR. HILDRETH said that he had often obviated the bad symptoms produced

by iodide of potash by employing at the same time mercurial inunction, and in cerebral syphilis he had obtained especially good results from this method of treatment. He had also noticed beneficial effects from alternating every two to three weeks with iodide of potash the proto-iodide of mercury.

Dr. FITZ remarked that in syphilitic affections of the spinal cord, in connection with intra-cranial syphilis, the prognosis must greatly depend upon the nature of the lesion and the region affected. In one case, which had been under his observation during a period of two years, the disease involved the lower portion of the dorsal region, producing marked paraplegia; yet the patient improved so much that she was able to walk a long distance without discomfort, though she suffered from occasional relapses. At one time the patient was seized with convulsions, partial loss of consciousness, and disturbance of speech, the former extending over a period of three days, the latter lasting some weeks, from all of which she gradually recovered under the combined use of mercurial inunctions and the internal administration of large doses of iodide of potash.

Dr. J. J. PUTNAM reported the following case of cerebral syphilis now under his care. The patient, a man in middle life, began to suffer from headache five months ago, and, after this had continued for a month, he was suddenly seized with a strange and intense attack of vertigo, followed by a second attack the same day. A few weeks later he began to suffer from indefinite symptoms, of which he can give but little account, and by which he was confined for several weeks to bed, being mildly delirious part of the time. On returning to consciousness he found himself with complete ptosis of one eye, and weakness of the opposite arm and leg. Since then the muscles of the leg have gradually become atrophied, and respond less readily than usual to the induced current, some of the muscles of the thigh wholly so, the atrophy being much more marked than that arising from extravasation, especially soon after the attack. There is now complete paralysis of the third pair of nerves on the right side. The arm has nearly recovered.

The conjunction of the paralysis of the third pair on the right side with partial hemiplegia of left side indicated the presence either of two lesions, which would not be remarkable, considering the nature of the disease, or, if but one were present, that its seat was near the right crus cerebri. No better explanation of the atrophy could be given than that the anterior cornu of the spinal cord had become secondarily affected.

*Subjective and Objective Aural Sound.* — Dr. GREEN reported the following case of a musical sound within the ear, which was both subjective and objective. A boy eight years old, of exceptionally fine intellect, and apparently in perfect health, with the exception of occasionally severe general headaches, complained of a "whizzing" in the ears, and the mother also, on placing her ear near, was able to hear it. Dr. Langmaid was called, and found the boy asleep, but while he was still asleep could hear the sound at a distance of several inches from the ear. The next day Dr. Green saw him, and the sound still continued, although less loud than on the previous evening. Examination showed absolutely no abnormal appearance in either ear, throat, or nose; the hearing for watch or voice was perfect, and the bone conduction was nor-



mal. The sound was musical, and was determined by Dr. Langmaid as  $g''$ ; it was intermittent, synchronous with the pulsation of the carotids, much louder in one ear than in the other, but of the same pitch in both. Slight pressure over either carotid stopped the noise in the corresponding ear. The otoscope located the sound directly in each ear; it was not transmitted, and could be heard neither below nor behind the ear. Sounds of the heart and large vessels were perfectly normal; no abnormal distention of carotids or jugulars, and no murmur or thrill in them. No anæmia; no dizziness. Subsequent examination with Dr. Langmaid confirmed all of these results, and also that at times the sound was entirely absent, and at times so low that it could only be heard by means of a Camman's stethoscope; the pitch of the sound where it existed was always the same.

No explanation of the phenomenon could be given, although it seemed probable that the sound was connected with the carotid artery in its passage through the petrous bone in intimate relation with the tympanum. The occasional cessation of the sound, its existence in both ears, and the age of the patient were opposed to the theory of its being dependent on an aneurism, as was suggested by one of the members present.

*Modification of Barwell's Elastic Muscle Apparatus.* — DR. J. J. PUTNAM exhibited to the society a young man suffering with wrist-drop from lead paralysis, and showed an apparatus which he was wearing to give support and passive motion to the affected muscles. It was practically a modification of Barwell's elastic muscle apparatus; consisting of a double strap of strong elastic webbing fastened below to the back of a strong leather glove by a buckle, and at the upper extremity of the fore-arm to the upper end of a strip of tin about two inches wide and hollowed somewhat to give it stiffness. This strip of tin was held firmly at its lower end by a strap which was sewed to a broad piece of sticking-plaster running the whole length of the fore-arm, which in its turn was bound down by long pieces of plaster surrounding the arm in a spiral. Dr. Putnam said that he had tried several other methods of arriving at the same end, but had found none to work so well as this.

*Mortality-Rate among Physicians.* — DR. F. W. DRAPER showed to the society a chart which he had drawn up from recent investigations made by him, representing the mortality-rate among physicians. His attention had been called to this subject by an obituary notice of Dr. Crosby by the late Dr. Peaslee, in which the writer mentioned the age of forty-two years as a specially fatal one among physicians. Dr. Draper arrived at the following results: of six hundred and sixty-seven deaths of members of the Massachusetts Medical Society during the last twenty-five years, the earliest occurred at the age of twenty-one, the latest at ninety-five, the average age at death being 58.84 years. The greatest number died at the age of seventy-two, the next largest number at sixty-nine. Among twelve hundred and sixty deaths of physicians recorded in the registration reports for Massachusetts for the past thirty-four years the average age at death was 53.27 years.

DR. FISHER said that he had recently made similar investigations, taking the mortality-rate of all the deaths in the Massachusetts Medical Society since its foundation, eight hundred and fifty in number, and had found the average age at death to be 58.55.

FEBRUARY 18, 1878. *Faulty Innervation as a Factor in Skin Disease.* — DR. WIGGLESWORTH read a paper upon this subject, which has been published in the *Hospital Gazette*.

DR. BOWDITCH referred to the case of a lady fifty-five years of age, who had suffered for several months from enlargement of the liver, attended at one time with jaundice. The hepatic symptoms were now much relieved, but she was suffering from furunculosis of the scalp, and he asked the reader if he had met with affections of the scalp dependent upon disease of the abdominal viscera.

DR. WIGGLESWORTH replied that he had once seen impetiginous eczema of the scalp, accompanying gastritis and derangement of the portal system.

DR. FISHER remarked that among the insane were seen many affections dependent on faulty innervation, such as erysipelas, boils, carbuncles, bed-sores, and changes in the growth and color of the hair. In general paralysis the ribs often show a liability to fracture easily, on account of absorption of deficient supply of earthy material.

DR. ELLIS asked Dr. J. J. Putnam what facts seemed to prove the existence of trophic nerves.

DR. PUTNAM replied that the occurrence of grave lesions of muscles dependent upon disease of the spinal cord, coming on very rapidly, and apparently not as a result of secondary changes in the motor nerves, seems to show that certain parts of the spinal cord stand in intimate trophic relationship with the muscles. It is still uncertain whether there are special nerve cells and nerve fibres having these functions, or whether it is that the motor cells and fibres serve a double purpose.

*New Delusion.* — DR. FISHER referred to a new delusion he had recently observed, being the first of the kind reported, as far as he knew. It was a belief in telephonic communication growing out of hallucinations of hearing. The case was one of the delusional insanity of chronic alcoholism. There was also a belief in a plot to deprive the patient of certain imaginary real estate in England. This new form of the general delusion of mysterious or unseen agency is likely to become common, as it is such a natural result of the symptom known as false hearing.

*New Method of applying Plaster-of-Paris Jacket.* — DR. BRADFORD showed a method of applying a plaster-of-Paris jacket in caries of the spine in children, by which suspension can be avoided.

A piece of cloth is folded so that it is longer than the body, and narrower than the thorax of the child; this is held stretched by two assistants, if the patient is quite small, or each end of the cloth is rolled on a bar of wood; one bar is screwed upon a table, and the other connected by rope and pulleys with staples placed in the wall. The patient is placed face downward lengthwise along the cloth, which by means of pulleys can be held taut, even when a child of considerable weight is placed upon it. The feet are fastened by bandages to the bar, and the head is held by an assistant who sits upon the table and pulls, extending the spine. If necessary, the table can be prevented from slipping by cleats screwed into the floor. The plaster-of-Paris bandages are then wound around the child and the cloth on which it lies. When the plaster of Paris is firm the cloth is cut above and below the jacket, and the patient set free.



This method is not as distressing as suspension by means of Sayre's tripod, and the child need not be moved until the plaster of Paris is perfectly hard.

DR. C. P. PUTNAM said that it occurred to him as a possible objection to this plan that there might be some danger of bandaging a child into a position in which he could not comfortably walk. It was of great importance to get the proper relative positions of the spinal column and the pelvis, and this is obtained with the suspending apparatus, especially if the child touches the ground with the toes. In cases of great deformity there is a correspondingly great curve in the lumbar region, which might be changed by lying down. He asked Dr. Bradford if he had ever applied it in cases of severe deformity.

DR. BRADFORD replied that he had not.

MARCH 4, 1878. *Post-Diphtheritic Paralysis.* — DR. J. J. PUTNAM read a paper upon this subject, which is reserved for publication.

DR. WEBBER said he agreed with Dr. Putnam that paralysis after diphtheria generally depends upon lesions of the spinal cord, but he thought that sometimes the nerves are affected without central lesion, as when there is unilateral paralysis of the soft palate, and in some other cases an occurrence of neuritis, even of limited extent, would better explain the symptoms than an affection of the cord. Dr. Webber said that Oertel and others have found micrococci in the blood, etc., effused in and about the spinal cord, and he asked Dr. Putnam if he had discovered them in any of the cases he had examined.

DR. PUTNAM said he had not.

DR. WEBBER referred to a case which he saw many years ago, in which excessive hyperæsthesia of the left leg followed a slight attack of diphtheria, with subsequent paralysis of the soft palate. The hyperæsthesia lasted several months, increasing very gradually in intensity, and subsiding in the same manner. The patient died of phthisis, and at the autopsy the sacral plexus on the left side was much larger than on the right, the sheath being thickened. The spinal cord was not examined.

DR. KNIGHT referred to the fact of neuralgia following diphtheria, and said he thought some of the severest forms of neuralgia might be attributed directly to this disease.

*Fat Embolism.* — DR. FITZ showed a microscopic specimen of fat embolism of the lungs, coming on independently of fracture of the bones. The patient entered the Massachusetts General Hospital with dislocation of the hip in consequence of being run over by a hand-car. He had been chloroformed previous to his entrance, and attempts were made to reduce the dislocation. His death took place eleven hours after the injury had been received. While in the hospital the pulse was very feeble, and a chill took place, accompanied by cyanosis, from which temporary relief was obtained with the aid of brandy. At the autopsy, the subcutaneous and intermuscular tissues of the thigh were extensively infiltrated with blood, and the pulmonary blood-vessels were frequently found to be filled with fat drops. Dr. Fitz remarked that he knew of no reported case where fat had been taken up simply from bruised fat tissue, which was evidently the source of the embolism in the present specimen.

The lymph vessels over the iliac artery coming from the injured thigh contained blood, and the nearest lymphatic glands were of a darkened color from the presence of blood.

MARCH 18, 1878. *Cases of Rapid Lithotrity.* — DR. CURTIS read a paper upon this subject, which was published in the JOURNAL of May 2, 1878.

DR. AMORY asked the reader if prolonged prostatic disease, in an aged person, was a contra-indication to this operation.

DR. CURTIS said no, and mentioned the fact that Sir Henry Thompson performs lithotrity when there is obstructive disease of the prostate, the fragments being evacuated at each sitting by means of Clover's apparatus.

DR. BOLLES asked the reader if he knew of any cases where several sittings proved necessary.

DR. CURTIS replied that he knew of no case excepting that of Dr. Porter, of which an abstract was given in Dr. Bigelow's paper. In that case three sittings were required, separated by intervals of four and five days. There were one thousand eight hundred and two grains in all removed, and three days after the last sitting the patient left the hospital, well. In this case there were two stones, and it well showed what an amount of disturbance the bladder is capable of tolerating.

With reference to gradual dilatation of a stricture, as preliminary to this operation, DR. NORTON FOLSOM asked if it would not be better to rupture the stricture and perform lithotrity at the same sitting, as he thought the shock from the two procedures would not be much greater than from one alone.

DR. CURTIS replied that rupture was hardly efficacious except for narrow strictures, and that such would probably render the treatment by rapid lithotrity impossible. Wide strictures, such as occur in the anterior portion of the urethra, are not amenable to treatment by rupture. Internal urethrotomy or gradual dilatation is preferable, and by this means in cases of slight contraction a sufficient calibre might be obtained to allow the use of the large evacuating catheter.

*Rare Fracture of Clavicle and Ribs.* — DR. DRAPER showed a rare form of fracture of the clavicle and ribs, and gave the following history of the case. The patient, a woman thirty-seven years of age, in a quarrel with her husband, fell or was pushed from the top of a steep flight of stairs to the bottom. She died thirty-six hours after, and at the autopsy the left shoulder was found to have an extensive bruise on its superior aspect; the left clavicle was obliquely fractured at the acromial extremity outside of the trapezoid ligament; the epiphysis at the sternal extremity was crushed off by impaction; the first, second, and third ribs on the left side were fractured through their neck, close to the tuberosity, the fracture being nearly transverse.

Dr. Draper remarked that any fracture of these ribs was very rare, and that a fracture in the situation described was especially exceptional. Another interesting point was that the third rib, besides being broken through its neck, had sustained a partial fracture in the middle third; moreover, attached to its tuberosity was the tip of the adjacent transverse process of the fourth dorsal vertebra. Death took place, not from the injuries above stated, but from



meningeal hæmorrhage with compression; a clot measuring two and a half inches overspread and compressed the entire left cerebral hemisphere. The skull was not fractured, but two severe contusions of the scalp gave evidence of external violence. The hæmorrhage was not directly beneath the scalp wounds, the opening in the vessel being upon the upper surface of the left frontal lobe, while the principal contusion was in the left mastoid region.

*Tubercular Meningitis.* — DR. J. B. AYER reported the following case of tubercular meningitis. The patient was a bright, precocious girl four and a half years of age, previously healthy, with no hereditary history of a tuberculous or scrofulous character.

Dr. Ayer first saw the patient February 3, 1878. Her friends stated that she had "caught cold" in the country, and was much debilitated. On examination, a small diphtheritic patch was seen on the right posterior pillar, together with follicular tonsillitis.

February 7th. She was placed on tonic treatment, and dismissed. She improved, and began to go out-of-doors, but at the end of a week became more languid, took less interest in amusements, grew taciturn, and had little desire for food.

February 18th. Vomiting commenced. Stomach remained very irritable for thirty-six hours, retaining milk and lime-water only (with brandy) in very small amounts. Injections at this time brought away hard, clay-colored fæces. Until February 23d she complained of severe pain in the region of the stomach, which was controlled by hot applications and small doses of deodorized tincture of opium, with spearmint. The temperature, taken twice during this period, indicated 99°. The pulse was very slightly raised at first, but it soon became slower, and was once found as low as 66. The patient did not complain of headache, did not avoid the light, and, in short, during this time showed no certain symptom of cerebral irritation.

February 23d. She became more languid, and took food less cheerfully. The pupils were widely dilated, and in a few hours ptosis of the right lid was noticed, and the patient fell into a semi-conscious condition. The pulse fluctuated between 56 and 66, and was often intermittent. Temperature 99.4° to 100.2°. Iodide of potassium was given in two-grain doses every three hours. Ice was applied to the head and mustard to the neck; milk and beef tea were given every two hours. Dr. Calvin Ellis saw the patient at this time in consultation, and on several occasions subsequently.

February 24th. The patient became comatose. Examination with the ophthalmoscope showed optic neuritis of right eye. Pulse 66 to 76. Temperature 99.4° to 100.8°. Respiration 24 to 25.

February 25th, 26th, 27th. Partial hemiplegia of right side appeared. Nourishment was given per rectum, — twelve ounces of milk and the same amount of beef tea every twenty-four hours. Pulse 76 to 103. Temperature 98.9° to 100.9°. Respiration 19 to 27.

February 28th, March 1st, 2d. The nose at its junction with the forehead became red and swollen. Epistaxis followed, and then an offensive purulent discharge from the mouth and nostrils. Pulse 125 to 152. Temperature 101.7° to 102.3°. Respiration 44 to 52.

March 3d, 4th, 5th. Face drawn to the left. Slight purulent discharge. Injections retained about half the time. Fifty-three hours before death the nurse found the temperature  $110^{\circ}$ ; the fever was so intense at the time that it seemed to her as if the "flesh were burning up." Thirty minutes later the skin had grown cooler, and the temperature was  $104^{\circ}$ .

March 6th. The patient had become much emaciated. The breathing at times was distressed, again imperceptible. Slight twitchings of the fingers were noticed, but no convulsions. She died quietly at eight and a half p. m., sixteen days after the first attack of vomiting and eleven days after the appearance of serious brain symptoms. She had been unconscious ten days and supported by nutritive enemata nine days.

Dr. Ayer called especial attention to the obscurity of the early symptoms.

*Acute Yellow Atrophy of the Liver.* — DR. BOLLES reported the case, which occurred in the practice of Dr. Hall Curtis at the City Hospital and was published in a recent number of the JOURNAL.<sup>1</sup>

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## PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.<sup>2</sup>

A. L. MASON, M. D., SECRETARY.

*Revision of the Pharmacopœia.* — PROF. G. F. H. MARKOE addressed the society on the subject of the revision of the Pharmacopœia, presenting at length the deficiencies of the present system and the changes which were desirable.<sup>3</sup>

DR. BOWDITCH asked why any objection had been made to attaching the amount of the dose to the directions for each preparation.

PROFESSOR MARKOE said that it was thought in New York that some legal objection might be raised in case that the dose were exceeded or diminished by physicians.

DR. BOWDITCH was of the opinion that the statement of the dose should by all means be added.

DR. HARLOW thought that the properties of the drugs should be given as well as the doses, as in the Dispensatory.

PROFESSOR MARKOE said that that would make the book too large for laboratory purposes.

DR. H. W. WILLIAMS regarded the specifications of the dose as open to serious objections. It was likely to lead apothecaries to prescribe largely, and, moreover, the dose had to be decided by the physician in each given case. Possibly there might be no objection to mentioning an approximate dose within certain limits.

PROFESSOR MARKOE thought that it would be well to indicate the doses of certain drugs, poisons at least.

DR. ORDWAY moved that a committee of three be appointed by the chair to take into consideration the whole subject of the revision of the Pharmacopœia.

<sup>1</sup> JOURNAL, May 9, 1878.

<sup>2</sup> Concluded from page 785.

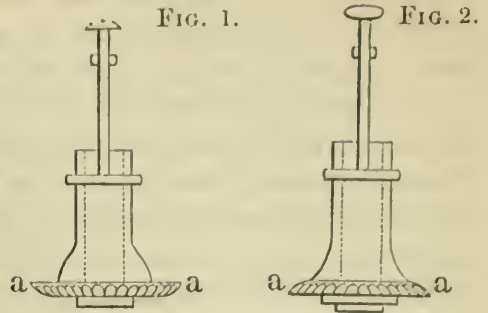
<sup>3</sup> See Proceedings of Norfolk District Medical Society, JOURNAL, January 31, 1878.



pœia, and to report to the society. The matter was subsequently referred to the councilors.

*Jennings's Closet.* — Dr. BOWDITCH explained this water-closet, which had been criticised by Dr. N. Folsom at the November meeting.

Figures 1 and 2 show the heavy, perforated plunger used in the Jennings water-closet. At its bottom is a thick India-rubber ring (a a), beveled at its circumference, so as to fit exactly into the mouth of the receiving tube, just above the trap leading to the drain. This beveled edge is five eighths of an inch broad, and every part of it, *if the rubber be properly fastened*, fits closely into the receiving tube, and thus forms an extremely tight joint. This is represented in Figure 1. If, however, the ring be fastened *upside down* (in which position an ignoramus would very naturally place it, because, as will be seen, it conforms more perfectly to the outlines of the upper parts of the plunger) the whole of this five eighths of an inch is virtually lost. The thin, almost membranous *outer rim* alone is left to close the opening. This it almost invariably fails to do. Moreover, it has always to be jammed down, and tends to spring up again instead of falling immediately and tightly into its place, as when properly fastened. Figure 2 represents it as thus placed. The consequence of this state of things is exactly that described by Dr. Folsom. Leakage for hours after the usage of the water-closet is the result. Probably this defect was caused by the ignorance of a plumber rather than by any inherent difficulty in the apparatus itself. Dr. Bowditch had seriously thought of having one taken away from his own house, but a plumber from Messrs. Loring's shop, Harrison Avenue, suggested that probably the plunger was wrongly placed. On examination he discovered that it was so, and he immediately changed it. Since that time Dr. Bowditch had found no difficulty, and regards it as the best kind of water-closet now in use.<sup>1</sup> It has two valuable qualities: (1.) It discharges immediately and with great force a large volume of water, and all deposits are instantly removed. (2.) It keeps itself much cleaner than any other closet, and the interior does not so early become stained.



*Swinging Splint.* — Dr. T. B. CURTIS showed a swinging apparatus for treating fractures, devised by him several years ago. A full description is published elsewhere.<sup>2</sup>

*Diphtheria; House Drainage.* — Dr. MINOT mentioned three cases of zymotic diseases in parts of the city regarded as the most healthy, in all of which radical defects in the house drains were found.

CASE I. Typhoid fever. The soil pipe did not ventilate at the top of the house.

CASE II. Diphtheria. The child died in one week. The soil pipes were defective, so that the sewer gas was pumped over the house.

<sup>1</sup> While correcting these proofs, the valve has failed to operate perfectly, that is, it has failed once in five months since the above report was made, instead of several times daily as before.

<sup>2</sup> See page 691 of this number.

CASE III. Diphtheria, fatal in about a week. The Board of Health discovered that the soil pipe contaminated the air of the house through the cemented floor of the basement, just above which the child played. In the same house there was an outbreak of diphtheria, with three fatal cases, two years ago.

DR. BOWDITCH inquired whether it would not be well to remove patients with these zymotic diseases, as in cases of cholera infantum, to a short distance, at least, from the places where the illness was contracted.

In answer to a question from Dr. Read as to whether contagion could have taken place in the cases mentioned, DR. MINOT said no; that the children were attacked suddenly, having gone to bed the night before perfectly well. The type of the disease was malignant, the leathery deposit in the throat extending forward to the molar teeth. There was no difficulty of respiration. They were overwhelmed by the poison.

DR. READ said that in the last five years he had seen eight cases of diphtheria. Those of the croupous form all died; the others got well. He never had regarded the disease as contagious until within a year, and no spreading of the affection had been noticed in connection with his cases. Still it was the sentiment of the profession that diphtheria was contagious. If it arose spontaneously from sewage in sporadic cases, why was it not extended further, beyond these isolated cases? Dr. Read thought that there was much confusion and doubt with regard to the origin of the disease, which should be investigated.

DR. CHENERY had lately seen a case, in a house where there had been two deaths from diphtheria, which he thought might depend on sewer gas, as the soil pipe was quite defective. Last year he saw five cases in a house with a cess-pool in front; but he was confident that in many instances within his experience the disease had originated where the sanitary conditions were good.

DR. KINNEAR inquired of Dr. Bowditch whether the Board of Health had yet made any conclusions with regard to the contagiousness of diphtheria.

DR. BOWDITCH replied that he could not speak for the State Board of Health; but for himself he had formed decided opinions, especially since studying an epidemic of diphtheria during the past summer at a town adjacent to Vergennes, Vermont. Dr. Bowditch felt that the course of that epidemic went strongly to support the following views:—

(1.) That diphtheria is *contagious*; numerous instances seem to be accounted for only on that idea.

(2.) That it is *infectious* seems strongly indicated by the fate of one family, all the members of which, except the father, were kept away from the sick persons and houses in which they were lying. The family took every precaution, and seemed for a time successful, when their neighbors were fatally attacked. The father, however, as a neighborly act, laid out one dead body and attended some funerals, returning home every night. After the disease had apparently subsided his three children and wife were suddenly seized. The wife was paralyzed about the palate, and the children died.

(3.) Filth appeared to have its effect in making the disease more virulent and destructive. An example, apparently, of this fact was the following, which took place in what, at first glance, seemed a nicely situated and admirably built house. It was the only brick house of those parts; it stood in a broad,



open field; it had a granite foundation raising it from the ground, while the others were of wood, and resting, as most of our farm-houses do, almost, if not quite, upon the level of the greensward around them. It had, I learned, a firmly cemented cellar. Moreover, a drain led from the house, in order to avoid the unsightly appearance of the slops when thrown upon the ground around the house, which custom was universal here save at this house. The drain was untrapped, and ran by a very slight descent into a bog about three hundred feet distant. Its mouth for the reception of slops was close to and directly in front of the kitchen door. Its other opening terminated in the bog of mud and water, in which the cattle stood to cool themselves in the summer, and dropped urine and faecal matter, while their feet stirred up the mud and these new materials. The wind could enter this opening, carrying the malaria of the bog, the fœtor of urine and faecal matter. These, combined with that from the slops, would be easily driven directly into the kitchen door. In this family the mother and three children were killed very rapidly.

(4.) Cleanliness seemed to ameliorate the disease, as shown in another house. This was situated on the summit of a dry hill overlooking the whole horizon. The slops, it is true, were thrown from a side porch upon the ground, but they ran rapidly down the slope. Everything about the house was extremely neat. No contaminated air could easily find access to the homestead. One child had undoubted diphtheria, and the rest had mild sore throats. All recovered. Dr. Bowditch could not help thinking that if the children and mother in the former case had been in a similar situation it is possible that they too would have escaped death.

In conclusion, Dr. Bowditch said that in his opinion we ought to consider the disease as contagious and infectious, and govern ourselves accordingly. Physicians should be careful to visit no such cases before seeing other delicate patients, puerperal cases, for example. We should act as we do when called to see a case of erysipelas and a puerperal case the same day, under which latter circumstances we might bring death to the puerperal women if we were not very cautious about our hands and clothing in going from one to the other.

The meeting adjourned at ten o'clock.

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### HOLDEN'S LANDMARKS.<sup>1</sup>

WE have received copies of this excellent work from two publishers, but we do not propose to institute any comparison between them. If the book sells as well as it should they will both have made a good investment.

The knowledge of anatomy which this book conveys is precisely of the kind for which both surgical and medical practice makes a constant demand. We are glad to believe that teachers are awakening to the fact that this knowledge not only does not come by nature, but that the average student does not deduce it from descriptive anatomy, nor even from dissection, but requires to have it taught methodically.

<sup>1</sup> *Landmarks, Medical and Surgical.* By LUTHER HOLDEN, F. R. C. S. Second edition. First American edition. Philadelphia: Henry C. Lea. 1878. Also, Philadelphia: Lindsay and Blakiston. 1878.

The plan of this book is good, and the style clear and simple; our criticism, therefore, bears chiefly, if not entirely, on omissions, and should be made with diffidence, for it is no easy matter to determine just what the limits of a work of this kind should be. It seems to us that the author has hardly given due attention to the nerves. It would have been well to have mentioned the nervous supply of each part, and also to have enumerated the "painful points." The base of the heart and the arch of the aorta are, we think, placed a little too low. In the article on the shoulder we think the author should have insisted on the fact that the acromion forms the projecting point of the shoulder girdle, and that the clavicle is entirely internal to it. We are glad to see that the author is very doubtful as to the possibility of feeling the normal kidney through the abdominal walls. Tenderness of the organ on pressure can easily be ascertained, but he does not think we can feel it unless it is enlarged. The position of the two openings of the stomach is correctly stated, but we should like to have attention called to the fact that the lesser curvature is nearly vertical. The book concludes with two short chapters on the exploration of the rectum with the whole hand and on vaginal examination, by Mr. Walsham and Dr. Godson respectively. We must think it a serious oversight that the danger of the former method is not duly set forth, and that there is no condemnation of Simon's practice of examining freely himself and then allowing one or two other persons to follow him. In our opinion this method of examination should never be used unless the surgeon is convinced that the information likely to be obtained is of sufficient importance to justify endangering the life of the patient. Such examinations, however, on the subject, if not agreeable, would at least be very instructive.

T. D.

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#### THE NATIONAL MEDICAL LIBRARY.

WE have at various times given our cordial testimony to the value of the work done by Dr. Billings in the National Medical Library at Washington, and, with every fresh intelligence from that direction, we recognize the importance of the position the library holds in our professional life.

Every medical man is at times a writer, or he is or ought to be a reader and a student; every such student and every such writer feels the necessity of knowing and reviewing what other men have thought and written on the subject he has in hand. For just such thinking and working men Dr. Billings has accomplished, by well-directed and persistent labor, a boon which comparatively few of our profession are aware of.

The specimen fasciculus which was sent some months ago to various members of the profession, for comment and suggestion, shows us that the National Medical Library now contains more than forty thousand volumes, besides forty thousand pamphlets, all well arranged and well catalogued. The (so called) author catalogue of this collection is well known to every bibliographer, and is invaluable in the way of medical literature.

The fasciculus, however, goes farther, and gives an inkling of a work of still more importance to the profession, and, if the views of the department can be



carried out, we may look for the opening in tangible shape of the whole field of medical literature, so far as the library represents it. To accomplish this object Dr. Billings has prepared a subject catalogue of the library, not only of the books proper and the pamphlets, but of the contents of medical periodicals, transactions of societies, and other serials. The value of ephemeral literature is seriously impaired by the difficulty of classifying and finding it, but the inception of new ideas, the working out of new problems in medicine, and the elaboration of special topics owe their life to monographs, to pamphlets, and to periodical articles. Such material is always fresh and always ahead of the text-books, but is apt to end its existence in the waste basket or to be lost in packages of journals stored on the upper shelf. We hope that the plan of Dr. Billings may be carried out, and that every physician in the land may have access to his subject catalogue, which will rescue this valuable material from oblivion.

A bill is now before Congress to authorize the publication of the first volume of the subject catalogue, the material for the entire work being fully prepared for the printers. It rests with our national legislators to decide if this valuable material shall be put into our hands at an early day.

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#### MEDICAL NOTES.

— English medical journals are complaining of the effects upon children of a so-called violet toilette powder. It caused an epidemic, the disease resembling erysipelas. The powder was analysed, and was found to contain twenty-five per cent. of white arsenic.

— Professor Sharples, in a recent article in the *Cambridge Tribune*, gives some interesting facts in regard to the adulteration of milk. He shows how difficult it is to tell by the ordinary methods of analysis. For instance, pure milk having a specific gravity of 1030, skimmed milk will have a specific gravity of 1035 to 1037, and if twenty per cent. of water is added to the latter the lactometer will give no indication of adulteration, but the milk becomes blue, and it tastes watery. "The blue color may be corrected by a little burnt sugar, which is regularly manufactured and sold for the purpose, and the taste is greatly aided by a little common salt. Now the milk tastes all right, yet it is watered and skimmed and otherwise adulterated. If we take a second case of a farmer who wishes to increase his profits, yet who does not understand the business fully, but who takes the milk just as received from the cow and adds twenty per cent. of water to it, he reduces in this way the specific gravity to 1024. The inspector at once seizes the milk, and the milkman has to suffer for it." Milk must therefore be carefully tested for cream. The writer compares woman's milk with that of cows, and shows that the only essential difference between the two is in the amount of fat, and that the only thing, therefore, that should be done with cow's milk to render it fit for a young child is to remove part of the fat. The addition of water or any foreign matter, such as cane sugar or arrow root, should be carefully avoided. In regard to condensed milk he quotes another writer, who says: "Whilst it was admitted that

infants take it readily on account of its sweetness (the moist extract contains about twenty-eight per cent. of cane sugar), grow plump, and appear to thrive remarkably well upon it, it is alleged that the appearance, which depends simply upon an accumulation of fat, is delusive, and that they really possess so little power that they become prostrated by diarrhœa and other affections, and rapidly sink in a manner that is not observed in other modes of feeding."

— The board of trustees of Columbia College has conferred upon Dr. For-dyce Barker the degree of LL. D.

— Dr. Horace T. Hanks, of New York, has been appointed lecturer on obstetrics in the medical department of Dartmouth College.

— Dr. Orlaw, of St. Petersburg, reports ten successful cases of injection of the tincture of iodine into the knee-joint for chronic inflammation. The strength used was one drachm of tincture to three of water. Effusions in the cavity of the joint were first evacuated. The inflammation was rapidly ameliorated, and there was no relapse.

— The secretary of the treasury has directed all medical officers of the Marine Hospital Service to make use of the metric system of weights and measures.

— The *London Telegraph* mentions a case of communication of scarlet fever by mail. One lady received a letter from another who was nursing a child ill of scarlatina. The lady destroyed the letter, but gave the envelope to her own child, which in due time became sick of the same disease. It is supposed that the letter may have infected other accompanying mail matter.

— The School Board of London, at the request of the National Life-Boat Institution, has decided to instruct all their scholars, one hundred and eleven thousand in number, in directions for the restoration of the apparently drowned.

— From both England and Germany come reports of cases of poisoning by American canned meats.

— The *Sanitary Record* warns those who purpose visiting Paris not to drink the water of that city, saying that of all waters it is the least reliable and most productive of typhoid, a common scourge of the French capital.

— According to the *Clinic*, opium eating has increased greatly in Maine. More morphia is sold in that State than in any other in the Union in proportion to the population. The enforcement of the liquor law is said to be the cause.

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## THE HOSPITALS OF CHICAGO.

MR. EDITOR, — It ought to be a pride of every large city that it has hospitals sufficient for the housing and care of all its poor and unfortunate sick. It ought to be the boast of every very large city that it has a hospital where paying patients of the middle classes may go and be attended and cared for with something of a home-like air and seeming. Unfortunately, few cities have such a hospital. Doubtless, one chief reason for this is the wide-spread popular prejudice against hospitals. People object to going for treatment to hospitals as long as they are pecuniarily able to keep out of them. A long and patient influence in the right direction will be required to educate the



masses in this country to believe that hospitals are not horrible places, next to prisons. Chicago has no reason for complaint at the small number or the capacity of her hospitals, or to ask for more, just at present. Hospitals originate in a variety of motives; sometimes it is from a legal necessity to care for the poor of the city or county that a hospital is started; sometimes it is in fulfillment of the vocation of a religious order or of the philanthropic purposes of a church; sometimes it is from the laudable ambition of medical men and women to have a wider field for the study of special or general diseases while they relieve the sufferings of the sick; rarely — sorrowfully be it said — is it from a conviction in the public, otherwise uninterested, that a hospital is really necessary to care for the unsheltered sick.

In a rapidly growing large city hospitals are in some things likely to obey the laws that govern other kinds of institutions, as hotels, factories, and stores. So many of them are likely to spring into existence at some epoch of the town's history that they must wait for the development and growth of the city to become needful if not to be useful. Hospitals have the advantage of hotels and factories, however, in the fact that, depending always largely on the contributions of the public and on persistent solicitations for support, they rarely fail to keep above water, however deeply they get into debt. Who ever heard of a hospital going into bankruptcy and closing its doors! Who ever heard of a hospital debt or deficit that could not be raised by the faithful "Ladies' Board of Managers," or other friends of the institution! But with all their short-comings and defects of method, the hospitals of a city are its noblest institutions, and the constant solicitations for money to operate them are among the most humanizing and wholesome influences ever exercised upon such a community.

The largest hospital in Chicago is the "Cook County," which is the great pauper hospital, is supported by the county, and controlled and managed by the board of county commissioners elected by the people. The present buildings were occupied about two years ago only, and hence are comparatively new and fresh. The plan is that of brick pavilions three stories high, each story being unconnected with the rest except by a covered one-story corridor, which joins the pavilions, the amphitheatre, cook-house, laundry, and engine-house. The buildings are situated in the centre of a twelve-acre lot, near the geographical centre of the city, and the plan contemplates the erection of other pavilions beside the two now in use, as they may be needed. This is the only pavilion hospital in Chicago. The present capacity of the hospital is three hundred and fifty patients. The average number in the wards during the past year has been two hundred.

The surgical amphitheatre is altogether the most magnificent part of the pile. Its construction was apparently dictated by the anticipation that in the years to come all the medical students in America were to be educated here. Its operating arena is sufficiently spacious to serve as the dancing place for a grand ball, and its seating capacity for students is said to be six hundred; it looks as though a thousand could find seats without touching elbows anywhere. There are a large museum room, a number of rooms for the preparation of patients, and rooms for the temporary custody of the insane, etc., in this structure.

The heating of the wards is by air passing over steam coils in the basement of the building, and the ventilation is accomplished by the suction through flues reaching to spaces on the floor near each pair of beds, the draught being produced by an up-current of heated air in a large shaft or tower at the centre of each pavilion.

Clinics are held in the amphitheatre three days of each week, and are free to students of any school and of both sexes on payment of five dollars annually.

The dead-house and necropsy theatre is a separate building. There were held in this amphitheatre many public post-mortem examinations during the past year; indeed, there is hardly any restriction upon the study of morbid anatomy at this institution.

The active medical staff of this hospital consists of six physicians and six surgeons, who alternate in their terms of service, there being usually half of the staff on duty at a time.

Appointments to vacancies in the staff are always made by the board of commissioners, usually on the nomination of the staff. The staff is in part representative of the faculties of the colleges, and in part of the profession at large. The house corps consists of two externes and four internes, all of whom are appointed by competitive examination. Each one serves a year and a half, six months as externe and a year as interne.

The number of patients at this hospital is not to be taken as an index of the hospital accommodations the county furnishes its poor, for there is a hospital for incurables and for lying-in cases at the poor-house in Jefferson, several miles out of town, to which cases are sent almost daily from the County Hospital. The hospital at Jefferson has an average of perhaps twelve cases of confinement each month, and constantly nearly one hundred cases of incurable disease.

The next in size and importance is the Mercy Hospital, under the control of the Sisters of Mercy. It is located near the lake shore, two and a half miles south of the centre of the city. It has a capacity of nearly three hundred patients, although it rarely has half that number at any one time. The building of this hospital has been constructed piecemeal, additions having been made as its needs increased. It contains a surgical amphitheatre capable of seating two hundred or more students.

The hospital is under the professional control of the faculty of the Chicago Medical College, which occupies a part of the hospital grounds with its building. The clinical material is put to the fullest and best use possible for the students of the Chicago College, who alone are admitted to its wards. There is, however, one unfortunate drawback to the most complete clinical advantages at the hospital, namely, the difficulty of holding any considerable number of necropsies. As nearly all the inmates are to some degree pay-patients, and have friends who immediately take charge of the bodies after death, it would be impossible to carry out any thorough study in this direction, even were the authorities of the hospital not opposed to such a course, from religious bias or otherwise, which they are.

The St. Luke's Hospital, situated near the lake shore in the south division of the city, is nearer the business centre of the town than any other hospital.



Though one of the smaller hospitals, having accommodations for only thirty patients, it has always been remarkably useful and efficient; it is, moreover, always full of patients. It is a general free hospital, and, while under the control of and supported very largely by the Protestant Episcopal church, its benefits are not restricted to members of any religious belief.

The present quarters of this hospital are of wood, the building having been formerly occupied as a residence. The house is old, not adapted to the work of a hospital, and of course is not a fit place for the permanent home of this excellent institution. The association owns a valuable lot, three and a half miles south of the business centre of the city, which is the site of the "St. Luke's" of the future.

The medical staff consists of a surgeon, a physician, an accoucheur and gynecologist, an oculist, a dentist, and a pathologist. Changes in the staff occur very rarely. Clinics are held here from time to time, but with no advertised regularity. They are, I believe, open to any students of medicine, without fee.

A hospital that does a goodly work with little parade is that of the Alexian Brothers. It is situated in the north division of the city, two miles from the business centre and half a mile from the lake shore. The hospital is open only to patients of the male sex. It is under the control of the Alexian Brothers, twenty of whom live in the hospital building and do all the work of the establishment. The control of the hospital rests with the Brother Superior, who is the head of the Alexian order in the United States. Patients who are able to pay are charged from seven dollars to fifteen dollars per week, according to accommodations. The hospital building is a large and fine one. It is divided into rooms (many of them small) of which there are about sixty, and the capacity of the institution is two hundred patients. About seventy is the average number of patients during the last year.

The medical staff consists of an attending surgeon, an assistant surgeon, two attending physicians, and a consulting physician. Changes in the staff are rare. No attempt at clinical teaching has, so far as I know, ever been made at this hospital.

Three quarters of a mile north of the Alexian is the St. Joseph's Hospital, under the control and management of the Sisters of Charity. It has a fine brick building, built about ten years ago, which contains nine wards, having space for one hundred beds. This hospital receives all classes of patients, except those with contagious diseases. The average number of patients in the house during 1877 was fifty.

The medical staff consists of a surgeon, a physician for ordinary cases and one for cases of nervous and mental diseases, a house physician, a consulting physician, and a consulting surgeon.

Free clinics are announced for three days in the week, but the remoteness of the hospital from any medical school makes its clinical facilities almost useless. Rarely is any number of students present.

The Chicago Hospital for Women and Children is a small hospital devoted to the classes of patients indicated by its name. It was organized in 1865, and was situated in the north division, where it was burned in the great fire of 1871. Now it occupies a brick building of its own within half a mile of the

geographical centre of the city in the west division. The building is a remodeled residence. The capacity is thirty-five patients, and the hospital is generally full. The institution is managed by a body of Protestant ladies, who solicit of the public such funds for its support as are not raised by the fees from pay-patients.

In the admission of patients no discrimination is made regarding any sick women or children, unless they are afflicted with contagious diseases.

The active medical staff consists of a "head physician" and surgeon, an attending physician, an attending surgeon, and a house physician, all of whom, by the rules, must be women. There is a consulting staff of men.

The material of this hospital was formerly the main reliance for clinical teaching for students of the Woman's Medical College, with which it was, prior to a year ago, associated; but since the separation of the two institutions, and the location of the college half a mile to the south and near the County Hospital, the value of the institution as a clinical field has greatly decreased.

The "Woman's Hospital of the State of Illinois" is a small hospital situated in the south division of the city, and devoted exclusively to the treatment of gynæcological cases, no class of general cases being admitted. It has accommodations for twelve patients. It was organized soon after the great fire.

The active medical staff consists of a surgeon-in-chief, four assistant surgeons, two assistant physicians, an electrician, and a resident physician, who is a woman. On the last mentioned devolves the duties of matron. There is a consulting staff of eight.

The city of Chicago maintains a small-pox hospital, which, fortunately, it is usually able to keep nearly or quite empty. During the past winter, however, a slight epidemic of variola has made this a very important institution. This hospital is attended by the city physician.

During the hot summer weeks of 1876 and 1877 a floating hospital has been maintained by an association incorporated for the purpose. During the time the hospital is in operation the sick — chiefly children of the poor — with mothers and nurses are taken each day in a tug to a schooner anchored half a mile from the shore of the lake, and there kept several hours to get what benefit may come from such a change of air and scene. It is the belief of many of our practitioners that very great benefit was received by little patients with bowel disorders from these hospital excursions.

In 1872 the Chicago Relief and Aid Society, out of funds contributed in view of the great loss by our fire of 1871, endowed beds in a number of our hospitals at one thousand dollars each, the stipulation being that for every contribution of this sum the society should have perpetual right to the free maintenance of one patient. The number of beds endowed in the respective hospitals is as follows: Mercy, forty; St. Joseph's, thirty-eight; St. Luke's, twenty-eight; Women and Children, twenty-five; the Alexian Brothers, eighteen. The society rarely has its quota of beds in these hospitals full, and great care is exercised by the superintendent to treat the institutions with perfect fairness. On November 3, 1876, the society had in hospitals twenty-two patients; on November 3, 1877, only thirteen.

CHICAGO, April, 1878.



COMPARATIVE MORTALITY-RATES.

	Estimated Pop- ulation, July 1, 1878.	Deaths during week ending May 18, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean for ten Years, '68-77.
New York.	1,093,171	470	22.35	23.42	28.71
Philadelphia.	876,118	279	16.56	18.80	21.54
Brooklyn.	549,438	195	18.46	21.51	25.50
Chicago.	460,000	122	13.79	17.83	22.39
Boston.	375,476	123	17.03	20.10	24.34
Providence.	100,000	24	12.48	18.81	19.20
Lowell.	55,798	25	23.29	19.09	22.50
Worcester.	54,937	11	10.32	14.07	22.30
Cambridge.	53,547	17	16.50	18.69	20.83
Fall River.	53,207	11	10.75	21.35	24.96
Lynn.	35,528	10	14.64	20.42	19.67
Springfield.	33,981	7	10.72	16.02	19.77
Salem.	27,140	9	17.24	20.38	21.15



QUERY. — MR. EDITOR: Observing among the book notices in the *American Journal of the Medical Sciences* for January, 1878, a criticism on Dr. Wylie's Hospitals, a Boylston Prize Essay for 1876, published by Appleton & Co., New York, I read the following: —

“Again, on page 127 we are told that ‘carbonic acid gas [in the breath] being of a higher specific gravity than air sinks to the floor.’ Such a statement might be expected in a circular advocating a patent ventilator, but is melancholy reading in a Boylston Prize Essay. What possible respect can be had for opinions on ventilation which are based on such a statement as this?”

Living, as I do, several thousand miles from where the great source of light shines on the summits of the Alleghanies must be my reason for asking information on a subject of such vast importance. I thought Dr. Black had *fixed* this principle of carbonic acid at the time he discovered “fixed air,”—about one hundred years ago. When I was a student, some thirty years since, I remember seeing our professor of chemistry fill some jars with respired air. A burning candle then being inserted it “went out,” and he told us there was carbonic acid gas in the jar as the result of respiration. I have also heard and read something about a “Black Hole,” as it was called, in Calcutta, with which every pupil in chemistry classes for the last one hundred years must be familiar. That was a “melancholy” affair; but what there is about this statement of Dr. Wylie in his essay that makes it “melancholy reading” some of the less favored and less enlightened members of the medical profession would like to know. Will not our reviewer of this book, whose initials are J. S. B., please explain?

I do not know Dr. Wylie or J. S. B., but sometimes I have visited hospitals, school-rooms, and other places where there was an abundance of respired air, and have often tried to explain to building committees and architects the advantage of some plan in ventilation which would dispose of this kind of air from the bottom of the room. I have no interest in any patent ventilator, but only in the truth, in regard to this matter. Hence I would be glad of enlightenment from J. S. B. or any one else.

C. L. A.

SANTA CRUZ, CAL.

THE next regular meeting of the Gynæological Society of Boston (the ninety-first) will be postponed till the second Thursday of June, in order to give members an opportunity to attend the meetings of the American Medical Association at Buffalo.

AMERICAN MEDICAL ASSOCIATION. — At the meeting to be held in Buffalo, June 3d, 4th, and 5th, the following papers will be read before the gynæcological section : —

(1.) Address of Edward W. Jenks, M. D., of Detroit, Mich., chairman of the section, on the Causes of Sudden Death of Pregnant and Puerperal Women.

(2.) Forceful Dilatation of the Urethra in the Treatment of Inflammation of the Female Bladder, by W. H. Byford, M. D., of Chicago, Ill.

(3.) Battey's Operation for the Extirpation of the Ovaries, by George J. Engelmann, M. D., of St. Louis, Mo.

(4.) Ovary, by Theophilus Parvin, M. D., of Indianapolis, Ind.

(5.) Digest of Fifty Cases of Uterine Fibroids treated by Electrolysis, by E. Cutter, M. D., of Cambridge, and G. Kimball, M. D., of Lowell, Mass.

(6.) Hour-Glass Contraction of the Uterus prior to the Expulsion of the Child, by T. A. Reamy, M. D., of Cincinnati, Ohio.

(7.) The Frequently Gynæcological Origin of Inherited Form of Strumous Disease, by Horatio R. Storer, M. D., of Newport, R. I.

(8.) Description of a New Clamp for Perinæorrhaphy, by W. W. Munson, M. D., of Utica, N. Y.

Papers are also expected by Dr. Mundé, of New York, Dr. Chadwick, of Boston, and others, the titles of which have not been received.

HENRY O. MARCY, M. D., *Secretary of the Section.*

ASSOCIATION OF AMERICAN MEDICAL EDITORS. — The regular annual meeting of this association will be held on Monday evening, June 3, 1878, at the Tift House, Buffalo, N. Y. All editors of American medical journals are eligible for membership, and are cordially invited to be present and participate in the meeting.

F. H. DAVIS, M. D., *Permanent Secretary.*

MEDICAL SOCIETY OF KINGS COUNTY. — A meeting was held on Tuesday evening, May 21st, at eight P. M., at Everett Hall, 398 Fulton Street, Brooklyn. The following papers were presented : —

A Case of Extra-Uterine Fœtation, by Dr. C. H. Giberson.

Dr. G. M. Garland, assistant in physiology, medical department Harvard University, read a paper on Pneumono-Dynamics.

Sanitary Work of the Brooklyn Board of Health, by Dr. J. H. Raymond.

Treatment of Lacerations of the Cervix Uteri, by Dr. A. J. C. Skene. (Read by title.)

A vote of thanks was passed to Dr. Garland for his paper.

The reading-room is open daily, except Sunday, from ten A. M. to ten P. M. Eighty periodicals are regularly on file.

G. A. EVANS, M. D., *Assistant Secretary.*

449 BEDFORD AVENUE, BROOKLYN, N. Y.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — A regular meeting of the society will be held on Monday evening next, June 3d. Dr. F. W. Draper will read a paper on the Post-Mortem Diagnosis of Certain Forms of Asphyxia.

BOOKS AND PAMPHLETS RECEIVED. — Medical Women: A Statement and an Argument. By Charles West, M. D. London: J. & A. Churchill. 1878.

Ninth Annual Report of the State Board of Health of Massachusetts. January, 1878.

The Paralysis of Pott's Disease, being a Clinical Study of Fifty-Eight Cases. By V. P. Gibney, A. M., M. D. (Chicago Journal of Nervous and Mental Diseases, April, 1878.)

Thirty-Fifth Annual Report of the Managers of the State Lunatic Asylum, Utica, N. Y., for the Year 1877-1878.

The Fifty-Fourth Annual Report of the Officers of the Retreat for the Insane at Hartford, Conn. April, 1878.

Twentieth Annual Report of the Washingtonian Home, 41 Waltham Street, Boston. April, 1878.

The Southern Negro as he is. By George R. Stetson. A. Williams & Co. 1877.

Amputations of the Cervix Uteri. By W. H. Nathan, M. D. Louisville. 1878.

Thirty-Second Annual Announcement of the Starling Medical College, Columbus, Ohio.

The Law of Population. Its Consequences and its Bearing upon Human Conduct and Morals. By Annie Besant. New York: Asa K. Butts. 1878.



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## LECTURES.

### GASTRIC VERTIGO.<sup>1</sup>

A CLINICAL LECTURE DELIVERED AT THE PENNSYLVANIA HOSPITAL, PHILADELPHIA.

BY J. M. DA COSTA, M. D.,

*Professor of the Practice of Medicine in Jefferson Medical College.*

GENTLEMEN, — This woman was admitted to the wards on the 18th of March of this year. She is forty-six years of age, a widow, and has evidently been in the habit of taking good care of herself. Her family history is excellent. The patient states that she has often had eruptions on her skin, but we cannot account for their appearance by the existence of any specific cause. She has also had rheumatism occasionally, with pain over the region of the heart and palpitation. She is now suffering slightly from some uterine disease, probably endometritis; her menses ceased some time since. Two months ago, that is, just prior to her admission, she had a very severe attack of giddiness, during the course of which she vomited greenish matters and complained of intense pain in her stomach, back, and eyes. When admitted, she suffered principally from vomiting, sick stomach, vertigo, and general debility. Over the epigastric region there was some tenderness upon pressure. Auscultation of her heart revealed the presence of a slight basic murmur. Her temperature was 98°, pulse 80, and respirations 20 to the minute. The urine was carefully examined, but contained no albumen and no sugar, and was of low specific gravity. The woman was at once put to bed.

Every attempt to get out of bed produced the most intense giddiness. In fact, during the early weeks of her sickness the patient was giddy most of the time, both day and night, but particularly in the day-time. She was frequently aroused from sleep at night by attacks of vertigo. This was most marked when the patient assumed the erect posture, and troubled her least when she was lying down, although even then she was not by any means free from it. This symptom of her disease was,

<sup>1</sup> Reported for the JOURNAL.

in fact, so exaggerated that at times she could not walk at all, and would stagger and fall when she got out of bed and made the trial. Whenever she attempted to read anything she became dizzy and confused. Her dizziness was essentially an objective vertigo. The bed upon which she slept, and in fact all outside objects, seemed to be constantly swaying to and fro. Her own body never appeared to move. As the case progressed the nausea and vomiting became very troublesome, and she suffered greatly from protracted attacks of morning headache. Her gait grew unsteady and very irregular, and when she tried to walk she always expressed a great dread of falling to the ground. I had her eyes carefully examined with the ophthalmoscope, but no chocking of the discs was found.

Under the treatment, which I shall mention to you later in the hour, the patient has grown very much better, so that she is able to walk about with considerable ease. Her color, too, has greatly improved, and her tongue looks much cleaner. The gastric symptoms have almost entirely disappeared. She is still occasionally giddy, however, particularly when she moves or gets out of her bed suddenly. The heart murmur has altogether disappeared.

Having thus made the history of the case complete as far as possible up to the present date, it remains for me to explain to you the cause of all the symptoms. What was the matter with the patient? It was very difficult to determine the question; there were, indeed, two distinct explanations which might be given. I might have thought it a case of severe brain disease with gastric disturbance; or, reversing this view, I might have concluded that the root of the whole difficulty lay in the state of the stomach. Which view should I select—brain disease or gastric disease? The proper treatment for the first would be injurious treatment for the second. On weighing the evidence, I made up my mind that the case was one of gastric vertigo. Let me give you my reasons. The prominent symptoms of the case were nausea, vomiting, and coated tongue; in cases of gastric disturbance due to brain disease the tongue is but little coated. Again, the woman had frequently complained of painful digestion; now, this symptom plainly indicated a gastric lesion, being but rarely found in cases of brain disease.

Was there anything about the character of the vertiginous sensations by means of which it was possible to determine the site of the lesion? Yes, there were several peculiarities. In the first place the patient had told us that she was better when her head was low; gastric vertigo is nearly always relieved upon assuming the recumbent position. This is an excellent point of diagnosis. Furthermore, I have told you that the vertigo in this case was of the objective sort; gastric vertigo is usually objective vertigo. Another common symptom of gastric vertigo is that the sufferer from this complaint frequently wakes up at night with ver-



tiginous sensations ; this is not often the case in cerebral disease. Moreover, vertigo linked to a brain affection is more or less persistent, whereas vertigo from gastric disease is very rarely continuous, generally occurring in seizures. . . .

During the week which has elapsed since you last saw this woman her symptoms have not practically changed. For the past few days she has been a little more distressed than usual, owing to an acute attack of gastric disturbance. But this morning she tells me that her vertigo is almost entirely absent.

We had determined when I last saw you that the present case was clearly one of gastric vertigo, for the following reasons : The vertigo was and is objective. It is, as a rule, relieved when the recumbent position is assumed, and is always worse when the patient is in the erect position. A coated tongue is but rarely or never present in cases dependent upon cerebral disease. Digestion is painful in cases of gastric vertigo. The vertigo is often present at night.

Another fact peculiar to cases of this disease is that when the patient is walking about and is surprised by an attack, if he but seize any object, however insignificant, the vertigo will be temporarily arrested. One of my patients is in the habit of carrying a walking-cane with him wherever he goes, and if an attack comes on he simply puts the end of his cane to the ground, and so steadies himself. This procedure would not have much, if any, effect in vertigo from organic disease of the brain. Let me then impress upon you the fact that in cases of gastric vertigo the least support may cut short the attack or temporarily postpone it.

Another peculiarity of gastric vertigo, which is not present in this woman, is that the attacks very frequently assume the form of violent paroxysms, the patient being entirely free from discomfort between times. I know of one instance, in particular, where the attacks come on only every six months, and last but a day or two. They in that case, however, are not brought on by any debauch or intemperance. I can call to mind still another example, where the patient suffers from the disease only while he is traveling.

Before dropping the discussion of the symptomatology of the disease I wish to speak to you of the curious dread which professional men with gastric vertigo very generally have. I have had physicians from a distance frequently come to see me when troubled with this strange malady, and the first question which they have asked me has been, "Am I going to be an epileptic?" In very many instances it has been difficult to make them believe that their symptoms were of purely gastric origin, and that they could in time almost certainly be cured : to men who by daily experience know the character of the initial vertigo of epileptics, their own symptoms seemed only too much of the same nature.

I can say to you quite positively that the prognosis in cases of true gastric vertigo is favorable. The recovery may not take place for weeks, or perhaps for months, but still it is ultimately effected. Very often in bringing about a cure it may be necessary for the patient to make an entire change in his habits and surroundings, — to take a sea voyage, or a trip of some duration.

Concerning the various points of diagnosis, I think I have already dwelt sufficiently upon them. The absence of persistent headache, of motor palsy, and of sensory disturbance is always a strong point in favor of the gastric origin of the disease. The ophthalmoscope, too, up to a certain point, will help us. If an examination of the eye with this instrument showed incipient choking of the discs or marked retinal hyperæmia, it would be an excellent proof that the disease was of cerebral origin. In cases of gastric vertigo the eye-ground looks perfectly natural, indicating only perhaps a state of slight cerebral anæmia or of venous turgescence. It would not do, however, to conclude that because the eye-ground was healthy the vertigo was, beyond all doubt, gastric in its nature. The fact could only be used as a presumption in favor of that view of the case. Understand me, therefore, as saying that I do not lay too much stress upon ophthalmoscopic revelations as diagnostic indications in this affection.

The cause of this disease, that is of the vertigo, is very hard to determine. It is probably due to a disordered condition of the blood-vessels, that is, either permanent or temporary contraction or distention. Eminent authorities have defined gastric vertigo as a sympathetic disturbance of the vessels of the brain, due to some extent to the influence of the vaso-motor system.

Dr. Woakes, in the last number of the *American Journal of the Medical Sciences* (April, 1878), has traced the path of a filament of the pneumogastric nerve on its way to join the lower cervical ganglion and from the point of junction to the labyrinth of the ear through the inhibitory nerves furnished to the vertebral artery from the ganglion. A distinct anatomical connection is thus made out between the stomach and the brain. The writer then goes on to say that stomach vertigo is evidently due to vaso-motor influence, and likens it to Menière's disease of the semicircular canal, where vertigo is also a very prominent symptom. This is certainly a plausible explanation of the facts of the case.

In speaking to you of the treatment of this disease I shall fall back chiefly upon my own experience in the matter, which has been large, for within the last four or five years I have had a considerable number of such cases under my care in hospital and private practice. To sum up the results of my experience, I may say to you that on the whole I think the best treatment consists, after regulating the diet, in the administration of bitter tonics and alkalies. Particularly was this true in



the case of the gentleman, already referred to, who was in the habit of aborting his attacks by steadying himself with a cane. That patient was always immediately benefited by the use of Vichy and Karlsbad waters and the bicarbonate of sodium. These alkaline waters should of course be taken after meals. At the same time the general tone of the stomach should be invigorated by bitters before meals. Later on in the course of the disease I prefer the use of iron combined with one thirtieth of a grain of strychnia thrice daily. The way to the employment of these remedies must be paved, however, by the regular administration of bitters and of alkaline waters.

Another plan of treatment which I have employed consists in the administration of small doses of corrosive sublimate, while paying strict attention to the bowels and diet. I have found corrosive sublimate to exert a most happy influence upon the gastric and cerebral phenomena.

In a certain way I have followed the first-mentioned plan of treatment in the present case. I have given gentian and then iron, in the shape mainly of the dialyzed preparation, both internally and by hypodermic injection since the gastric symptoms began to improve. You understand that I consider iron to be a good remedy late in the course of the disease, when the stomach is improving its condition, but not early in the case, when it is not always well digested, and when the constipation it may induce is especially to be avoided.

A word to you before closing as regards the hypodermic injection of dialyzed iron. As you already know, I have used that form of administration in a case of chlorosis, where the stomach was not very retentive, with the most excellent results. I ordered in that instance at first an injection of fifteen minims daily of pure dialyzed iron diluted. Afterwards, finding that the girl showed no bad effects from such a use of the drug, I had the dose increased to twenty, twenty-five, and finally thirty minims of undiluted iron daily. The punctures marking the spots where the needle was introduced exhibited no signs whatsoever of inflammatory action. The improvement was most marked. The girl's menses came on regularly, her digestion improved rapidly, her strength increased daily, the color returned to her lips, gums, and tongue, and the "venous hum" which was at first loud and marked, grew faint and distant.<sup>1</sup>

Since then I have used the dialyzed iron in other instances. I tell you candidly that the subsequent results have not been as favorable. The constitutional effects have been good, but the local effects unsatisfactory, as, in truth, they were in the patient whose case I have been discussing with you. Lately the injections have caused a great deal of local irritation. I have found that of two bottles of dialyzed iron, even be they both from the same maker and purchased at the same time, the

<sup>1</sup> See JOURNAL, March 21, 1878.

contents of one bottle will irritate and those of the other will not. The reason of this evidently is that all bottles of the preparation are not entirely neutral. Nay, from the same bottle I have had the most excellent effects for a few days in the use of the iron, and then after that time the drug began to irritate, which shows that even of the same bottle one half may be bland and the other become irritating.

Notwithstanding all this I have not given up using iron hypodermically in appropriate cases. I have lately been experimenting with some other forms, among them the ammonio-citrate of iron, which I have found to be reliable. This is, however, only a provisional statement, and is thrown out as an anticipation of what I hope to be able to prove definitely by experiment. I will say positively that thus far its effects have been most excellent. In a number of cases in the wards of this hospital I have injected from two and a half to five grains of the ammonio-citrate in fifteen minims of distilled water without any bad effect whatsoever, either locally or otherwise. In the wards of my colleague, Dr. Hutchinson, the needle has been passed deeply into a patient's tissues six or seven times without any local irritation. There is an instantaneous nausea produced in some cases following the injection, but as the same nausea follows the use of plain water it certainly must be largely the result of imagination.

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## WHAT IS THE OBJECT OF THE MASSACHUSETTS MEDICAL SOCIETY, AND HOW CAN IT BEST BE FULFILLED?<sup>1</sup>

BY ROBERT T. EDES, M. D.

It is customary, in the preludes to codes of ethics and in annual addresses, to set forth in rather high-flown language the duties and qualifications of the medical practitioner, tending to convey to the uninitiated the impression that the profession is or ought to be composed chiefly of sages, saints, and martyrs; but it seems to me more appropriate and more practical, instead of starting forth with certain preconceived notions as to an impossible ideal, to consider what the state of the profession really is, and what a medical society can do for it.

At present there is in this enlightened and progressive State no sort of official definition of what a physician is. Various papers are required to be signed by "a physician" or by "a respectable physician," but I do not know of any person, claiming to be a physician, who is not allowed to sign such papers, and whose signature is not valid thereon. Boards of health and insurance companies look a little more closely into some men's certificates than others, and the indubitable quack and ignoramus may be pushed a little harder on the witness stand than a

<sup>1</sup> Read before the Dorchester Medical Club, May 16, 1878.



well-known and respected practitioner; but there is no tribunal which has a right to say authoritatively to any man, "You are not a physician in the eye of the law," or, "You are not a respectable physician."

The law does not give to our title of M. D. even the protection afforded to the two-cent stamp on a bottle of soothing syrup, for its assumption cannot be punished; and the practitioner whose degree testifies to at least a minimum of three years' study and examination, and who may have added thereto many more years of foreign study and domestic experience, has no remedy if the man who to-day blacks his boots or puts in his coal appear to-morrow in the opposite house, having his name, followed by M. D. and as many more letters as he pleases, inscribed thereon in gold.

This is intended as a statement of facts, and not as a complaint. Perhaps it is best so. This is a free country, and the dearest privilege of the American citizen is to humbug and to be humbugged; but such a condition of things imposes duties upon a medical society which it need not assume in less "progressive" regions. Yet we may find here gentlemen who have received as elaborate and thorough an education as the expenditure of time, labor, and money can give, and others who with fewer advantages deservedly occupy, both for their eminent scientific and practical ability and their high moral character, positions of the greatest responsibility, and justly receive the respect of the communities in which they live. From these down, however, there is a constantly descending scale to the lowest quack. No one can tell exactly where the line runs that separates the physician from the quack. Many are undoubtedly above, many undoubtedly below, but many also so near the line that their position is doubtful.

The most important and most practical function of the Massachusetts Medical Society, as it seems to me, is to draw this line, and in every way possible, by the strictness of its requirements within reasonable and attainable limits, by the encouragement of scientific work and the discouragement of all dishonesty and unfairness, to make it as distinct as possible; that the physician may be separated from the quack by so wide an interval that nobody can possibly mistake one for the other. The line *must* be a somewhat arbitrary one, and the society takes upon itself the burden of a sort of registration of persons with suitable attainments to become members, furnishing so far as a society can a sort of guarantee of character, both professional and moral. The more thoroughly this duty is performed, the more useful and influential the society will become.

Other professions have organized similar societies which confer no legal privileges, but which do give a sort of guarantee of respectability. The best guardians of the highest interests of a profession are to be found within itself; and although we might rightfully ask the law to

give some protection to the physician as against the quack, that protection would be most efficiently afforded simply by protecting a degree or title which might be granted by the Massachusetts Medical Society or its delegates.

To perform this function properly the society should, as indeed it now does through its boards of censors, fix a minimum of attainments to be demanded for membership, regulating its demands by the existing condition of medical education, and by the amount of professional information expected of practitioners in good standing, rather than set up an impossible ideal. The individual member may seek for perfection in knowledge and character, but the stimulus must come from within and not from without.

He may say what he will strive to become. The society has a right to say only what the applicant *must* already have become before he can be received as a member. In order, however, that the line of demarcation should be a distinct one, in order that membership should be a criterion of value in the eyes of the profession and the public, fitness therefor should consist solely in competence and honesty of purpose. If membership is to be honor and non-membership disgrace, let no one be able to say that exclusion from the Massachusetts Medical Society is a mere matter of prejudice, of dislike, or of theoretical notions as to the fitness of this or that class to practice medicine.

The barrier must not only exclude the unworthy, but also include all the worthy. The society needs upon its side, as an organized foe to quackery, all honest and intelligent persons, and cannot afford to place them, even apparently, in opposition to it by excluding them from its privileges and classing them among the quacks outside of its artificial limits.

Thus far the society has persisted in the exclusion of a class — not large, perhaps, but important — of intelligent and competent persons, and this on the entirely irrelevant ground of sex.

I think we have here but little to do with theoretical notions as to the ability of women to practice medicine. Certain drawbacks they undoubtedly have, and I may entertain my own private opinion of the probability of many women becoming distinguished physicians; but we can practically ask of them, as we ask of men, only a minimum of attainment, and their physical disabilities are nobody's business but their own.

Whether or not I should want my daughter to become a physician is as pertinent to the question before us as the somewhat similar inquiry that used to be asked in *ante bellum* days, "Should you want your daughter to marry a negro?" It will be time enough to answer it when it really arises; but if she should become a doctor I should want her to be a respectable one, and not be obliged to fraternize with quacks against her will.



We are, however, in presence of a fact. The female practitioners are here and at work. Some of them (and we ought to thank them for the compliment) desire to join the Massachusetts Medical Society. They look upon its membership just as we wish it to be looked upon, as a guarantee of respectability. We have no right to impute to them other than worthy motives, the same motives which make *us* unwilling to be mingled in an indiscriminate mass of good, bad, and indifferent. We can hardly suppose that they care a great deal about obtaining their "Braithwaites" at a reduced figure, or are seized with an insane longing for the publications of the society, or even for the annual dinner, delicious though it be. Money can have but little or nothing to do with it. I see no reason why membership in the Massachusetts Medical Society should increase their yearly incomes by a dollar.

Why should not the best of the female practitioners have exactly the same reasonable desire not to be confounded with the quacks of their own sex (who undoubtedly exist) that we have? And why should they not, being comparatively few in number, ask of the Massachusetts Medical Society to give them recognition for this purpose? Both justice and wisdom demand the granting of the wish.

Their numbers and influence would, so far as they go, be of value to us, but the presence of even a single well-qualified woman would serve to relieve the society of the reproach of prejudice and bigotry which, I cannot help thinking, sometimes rests upon it. If we are told that the society in expelling the homœopaths showed itself intolerant, narrow-minded, and non-receptive of new ideas, we wish to be able to reply: "Not so. We believe the homœopaths to be unscientific, illiberal, and many of them dishonest. We ask, for membership, only competent knowledge, liberal principles, and freedom from artifice. We are not influenced by prejudice. Every suitable person is welcome."

But if the objector continue, "Why then do you exclude women as a class?" we cannot say, "Because they are illiberal or incompetent," for they profess to practice upon the same principles as ourselves; they have been perhaps educated by the same teachers, and have read the same books.

Women in other States are admitted to societies, and their remarks are listened to with respectful attention; their essays carry off our Boylston prizes, and receive high praise abroad. As to their competent knowledge, all they ask of us is to put them to the same test with other candidates, and allow them to demonstrate it.

As to moral qualifications no test has yet been devised except the observation of daily life and works, — a test which, I think, has as yet revealed no conspicuous failure of women as a class.

So long as a single intelligent, well-educated, and honest person seeks admission to the Massachusetts Medical Society, and is denied, so long

the society fails to fulfill its most important function of discriminating between the respectable practitioner and his counterfeit, and for so long it cannot be established on its only possible solid foundation, on which alone it can command universal respect, absolute and impartial justice.<sup>1</sup>

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## RECENT PROGRESS IN DENTISTRY.

BY THOMAS H. CHANDLER, D. M. D.

THE latest excitement in the dental world has been caused by the advocates of the so-called *new departure* at a late meeting of the Odontological Society of New York. As stated by them through Dr. J. Foster Flagg, of Philadelphia, this new departure is as follows: —

### NEW DEPARTURE CREED.

I. In proportion as teeth *need* saving, gold is the *worst* material to use. II. Neither “contouring filling” nor “separating teeth” has much to do with the arrest of decay. III. Failure in operations is mainly due to incompatibility of filling material with tooth-bone. IV. A tooth that can be so treated as to be filled satisfactorily with *anything* is worth filling. V. Skillful and scrupulous dentists fill with tin covered with gold, *thereby* preventing decay, pulpitis, death of the pulp, and abscess, and *thereby saving the tooth*. VI. A filling may be the *best known* for the tooth, and yet *leak badly*. VII. Gutta-percha, *properly used*, is the *most permanent* filling material we possess. VIII. A *poor* gutta-percha filling, *in its proper place*, is better than a *good* gold one. IX. Amalgam, *per se*, is an *excellent* filling material. X. The use of “plastic” filling material tends to lower that dentistry which has for its standard of excellence “ability to make gold fillings,” but very much extends the sphere of usefulness of that dentistry which has for its standard of excellence “ability to save teeth.”

The third article contains the *raison d'être* of the whole matter, namely, the incompatibility of fillings with tooth substance. The idea has for some years been gaining ground that the failure of the work of even the best operators must be caused by some mysterious agency aside from bad work, for it could not be that, and electrical action was suggested. The word electricity is a word of power, like that on Solomon's seal, and at once accounted for whatever was unknown, if not for the unknowable. Some experimenters in England first took up the investigation to ascertain what, if any, was the action of this agent, and some remarkable results were claimed. An essay was read before the Odontological Society of Great Britain; this was published, and there for a while the inquiry paused. Shortly after, Dr. S. B. Palmer, of Syracuse, again took up the subject in earnest, and has devoted his



leisure for several years to experimentation. He asserts that the tooth substance makes with any other substance a galvanic battery, and, being easily acted on by acidulous fluids, it becomes with most filling materials the positive pole, and therefore the one to be destroyed. Of all the materials used by dentists in their attempts to preserve the human teeth he claims that gold is, in the electro-chemical scale, the worst; then come the amalgams, though with a wide interval; then tin; then gutta-percha; and last the oxy-chloride of zinc. Between the last two stands dentine or tooth-bone; therefore the oxy-chloride, were it not for its easy destructibility, would make the only perfect filling, and next to this are the compounds of gutta-percha. All others are more or less dangerous in proportion as the tooth itself is of good or poor material, and the fluids in the mouth acid, alkaline, or neutral. The advocates of this new doctrine are Palmer of Syracuse, Chase of St. Louis, and Flagg of Philadelphia, who is their mouth-piece. As usual with new doctrines all its disciples do not take precisely the same ground, though all despise gold and love amalgam and gutta-percha. The somewhat startling assertion is made that gutta-percha, though it cannot be made water-tight, but is always leaky and always admits the acid saliva to direct contact with the tooth-bone, is yet better than the best gold filling, which is the same as saying that the mere presence of the gutta-percha in a carious tooth is preservative. If this is so, why fill both of two contiguous cavities, and not trust the gutta-percha in one to save the other?

There can be no doubt that this shell thrown into the dental lines will for a long time affect the practice. Many who have heretofore avoided amalgam as the unclean thing, and used other plastic materials only as temporary work, will now be tempted to experiment with them; many who have used them sparingly, believing and acting on Article IV., will venture still further, and adopt them for ordinary cavities not offensively conspicuous; while the quack and the charlatan, who have always employed them freely, supported by the prestige of such names, will throw aside what little reticence they may have had, and openly proclaim themselves disciples and leaders of the new departure. This is not the place to argue the matter, but doubtless it is a long step backward, as destructive of all pride of appearance in the patient, and pride of work in the practitioner, removing all incentive for care and skill aside from the stimulus of his conscience.

In another direction has been the work of Dr. G. F. Waters, whose experiments upon his own person with scalding water and bicarbonate of soda are somewhat notorious. He claims in several cases that have come under his care to have restored not only the bone lost by necrosis, where the periosteum has been uninjured, but the destroyed periosteum itself. In a paper read before the Massachusetts Dental Society at the December meeting he narrated several instances where this had been

done successfully, the patient restored to comfort, and the diseased parts to usefulness. His method consists chiefly in the injection of aromatic sulphuric acid, of varying strength, into the diseased tissues, with the idea of dissolving out necrosed bone and stimulating the parts so that nature may act. This plan of removing necrosed bone is not new. In one of the old numbers of the JOURNAL is an account of a case where this was done by Dr. D. M. Parker, of this city; it has been employed in England for diseased tibiae, and has been persistently advocated by Dr. Wm. H. Atkinson, a dentist of New York, who claims that it has no injurious effect on living tissue, but dissolves out dead bone with certainty. It is believed, however, that no one has attempted to restore the periosteum, or claimed to have done so even accidentally. Besides the cases mentioned in his paper, Dr. Waters illustrated his remarks by instances drawn from the work of nature in restoring lost tissue in birds and animals.

In the matter of dental education a real and valuable new departure has just taken place, namely, the establishment in connection with the medical department of the University of Pennsylvania of a dental school, with an endowment and means furnished for the proper prosecution of the work without an absolute dependence upon the fees derived from its students. It is thus placed at once upon a firm footing, born, like Minerva, fully armed, through the liberality mainly of the trustees. A building is erecting at a cost of fifty-five thousand dollars, whose first floor is for the clinics of this school, one hundred and forty feet by forty, affording ample room and light for the most delicate operations, and full accommodations for all other necessities of a well-organized dental school, "unequaled in America." The second floor is for the chemical laboratory for both medical and dental students. The trustees say in their announcement, speaking of dentistry, "Now, so many new methods and theories are embraced in its successful practice that nothing but the broadest and most thorough training in the collateral sciences will enable its members to practice it intelligently and successfully. These are facts recognized and admitted by many members of the dental profession, some of whom have occupied positions as teachers, and who have been forced to the conclusion that competent instructors, laboratory conveniences for practical instruction in chemistry and physiology, materials and accommodations for the study of anatomy, histology, and pathology, with all the numerous accessories for treating these subjects broadly and thoroughly, could be offered only by such an institution as the University of Pennsylvania, with its superabundance of these important requirements."

Prizes of instruments, medals, and money, to the number of seven, are also offered for excellence in the various departments, and the medical department holds out the further inducement that "graduates of colleges of pharmacy and dental colleges in good standing are admitted



to the *second* course in the University without an examination ;” and also “*those desiring to graduate in medicine may do so by attending a third course, . . . giving notice of such intention at the beginning of the second dental course.*”

The regular or winter session is a five months’ course, and that which students are *required* to attend. This is supplemented by a spring course from the first Monday of April till the middle of June, and a fall session of two weeks previous to the beginning of the winter course, free of charge to all who attend this last. Students who attend these courses are not required to secure a preceptor for private instruction during the recesses. Attendance upon *two* full winter courses only are required for graduation, and two years’ study either under a preceptor or in the spring school.

All the arrangements have been made with unprecedented liberality, and it is the only dental school in existence that has an endowment. Its success is certain from the start, as it is enough in advance of all the schools except the Harvard to attract those who are really seeking for an education, and not merely working for a diploma as an advertisement. Its position in the midst of the hospitals and colleges of Philadelphia is unsurpassed. There can be no doubt that this will give a stimulus to the cause of dental education, and spur those institutions whose pecuniary interests have hitherto stood in the way of any advance to struggle to come well up abreast. Indeed, this has already occurred. Its degree is D. D. S., doctor of dental surgery.

Another type of dental school has been lately inaugurated in the West as far in the rear as this is in the van, namely, the Western College of Dental Surgeons, which offers to examine candidates for a degree without requiring of them any previous attendance upon lectures, such evidence as they can present at an oral examination being deemed sufficient to admit them within the charmed circle of doctors. They say, “We hold that one who by his industry and perseverance has qualified himself to pass a searching and satisfactory examination without the aid of schools is entitled to take rank in any profession equally, etc., etc. But “*Quis custodiet ipsos custodes?*” Some other evidence of the qualification of the examiners should be required than an act of incorporation by the average legislature.

Another type of dental schools is the Maryland School, in Baltimore, which relegates the conferring of its degrees to a board of regents, composed of clergymen, lawyers, merchants, or any others whom a popular reputation may have called to the front on the recommendation of the faculty. The central thought in this method is that the men who teach should not also be the ones to examine, they being supposed to be inclined to favor their students. But practically the students are examined by the instructors, and the results turned over to the board

of regents, who simply do the voting and conferring in obedience to instructions.

The Michigan School, in connection with the university of that State at Ann Arbor, is still another late type of dental school. Its course is six months, from October 1st to the end of March. It demands an admission examination in writing in the ordinary branches of an English education for all not graduates of "some respectable college, academy, or high school," as to "fitness for entering upon and appreciating the technical study of medicine." Three years of study are required for the degree, including two courses in some dental "college," of which "the last must be in this school." The Harvard School terms are of *nine* months' duration, and *three* years' study are demanded, including two years in the school, of which the first is passed with the medical students, and is identical with the first year of the medical school. An examination in the studies of this year must be passed before the student can go on to the second year. One of the three years may be passed away from the school under competent private instruction, and a student by passing the first year examinations may pass at once to the second year class.

Of the fourteen dental schools in the United States, all but these five adhere mainly to the old plan of winter terms and private pupilage in the recesses. None demand more than two years' study for a degree except the Michigan University and Harvard School, and of course their standards are as their numbers, each faculty being a law unto itself; and all except the Michigan School and that of the University of Pennsylvania depend upon the students' fees for their expenses and the salaries of their officers. Such a state of things necessarily hinders all true progress, establishing rivalries between the different schools, lowering the standard, and cheapening degrees. Weak human nature should not be subjected to such temptation; therefore some plan is to be desired by which a uniform system may be established throughout the land, and the degree, whether D. D. S. or D. M. D., made to signify as nearly as possible one and the same grade of acquisition.

This short sketch of the state of instruction in dentistry is given as an indication of its real progress as a profession. Within the past twenty years a change has been going on, at times rapidly, at others slowly, in the methods, materials, and instruments for accomplishing its ends; but the real progress has been made in the means for acquiring an education, and placing the business of dentistry on a fair footing with other professions. The great multiplication of dental schools cannot be considered as all in the forward direction, but there are those among them whose aims are high, and whose curricula, faithfully followed, can and do place their graduates on a level with at least the average graduate of other professional schools.



PROCEEDINGS OF THE MEDICAL JOURNAL ASSOCIATION  
OF THE CITY OF NEW YORK.

P. BRYNBERG PORTER, M. D., RECORDING SECRETARY.

REUNION Friday, May 24, 1878; Dr. Robert F. Weir, president, in the chair. On this occasion Dr. Samuel W. Gross, of Philadelphia, read a paper on *The Rational Treatment of Stricture of the Urethra, with an Exhibition of some New Instruments for Internal Urethrotomy*. After a graceful introduction, the reader commenced his subject proper by saying that the object of all treatment of stricture of the urethra was to restore the part as nearly as possible to its natural state. Ordinary dilatation was found to be utterly unavailing, and therefore it had been necessary to devise some other means for accomplishing this result. It was true that by such means the condition might be palliated, but the prominent symptoms were sure to recur. He could conscientiously say that even after incision of the meatus urinarius he had never yet succeeded in making a cure by dilatation with bougies, however long the treatment might be kept up. At the present day, therefore, he never practiced dilatation unless there were some contra-indication to a more radical operation, or unless the patient were unwilling to submit to the latter. Divulsion or internal urethrotomy, or perhaps a combination of both, was the method of operating to be employed; but we should always remember that with the stricture there is almost invariably a condition of subacute urethritis, and that this is apt to give rise to spasm and other symptoms which must primarily be gotten rid of.

In operating for stricture, then, there were three principal indications, namely: First, to get both the seat of trouble and the general health of the patient into the best possible condition for operation. Second, to restore the calibre of the urethra at the point of stricture. Third, to prevent urethral fever subsequently.

It was a point of great practical importance, not only as regards the diagnosis, but also the treatment, to determine whether there were any strictures in the anterior portion of the urethra, before attempting to deal with deep-seated ones. A constriction situated in this part of the canal was very apt to give rise to spasmodic stricture in the deeper portion; so that when this was overcome, the latter disappeared spontaneously. In more than one third of sixty-seven of Dr. Gross's cases the whole trouble was located in the first inch from the meatus. It was therefore a rule of his always to cut an anterior stricture before taking steps in regard to anything further back.

Dr. Gross stated that his measurements of the normal urethra differed but slightly from those of Drs. Weir and Otis. The calibre of a stricture, he considered, could be determined more accurately and easily by Dr. Weir's urethrameter than by any other instrument with which he was acquainted. With a view of inserting a splice of new material (in the language of Dr. Gouley) at the seat of stricture, he had been in the habit of resorting both to divulsion and internal urethrotomy. Of late years, however, he had been employing the former less and less frequently; not because it was dangerous, but

because it had proved unsatisfactory in its results. In many cases which he could recall submucous bands had been left unsevered after divulsion, and indeed he not unfrequently had finally to resort to urethrotomy in cases in which he tried it. It was, nevertheless, a very useful operation in cases of emergency, such as retention of urine.

Of the two methods of inserting a splice by means of internal urethrotomy, he decidedly preferred that in which the cutting was from within outward, and he had himself devised a simple instrument for that purpose. This had a bulbous exploring extremity, and within the latter was concealed a knife, which was operated by touching a spring in the handle of the instrument. The manner of using it was to carry the bulb about half an inch beyond the stricture, and then, projecting the blade by pressing the button in the handle which controls the spring, draw it forward; at the same time making counter-pressure with the unemployed hand in the perinæum. This was called the exploring urethrotome, because, after the cutting, if any bands should remain, they could easily be detected by means of it, when the operator could again project the blade and sever them. In forty-six cases occurring in private practice, and embracing eighty-seven strictures, every patient had recovered. In but one was there any unusual hæmorrhage, and the only cases in which urethral fever had occurred were those in which an anæsthetic was employed; so that he could not but believe that the fever was to be attributed to this cause. In all his cases the greatest care had been taken to prepare the patient properly for the operation; and the practice which he had employed was essentially that of Dr. Otis.

On account of the variation of the calibre of the urethra in different individuals, there were certain disadvantages connected with this method of treatment, which was based on the average normal anatomy of the part. He had met with only two cases in which the meatus was as large, naturally, as the canal behind it, and it was therefore ordinarily necessary to divide the former. As a rule, the meatus had a circumference of only twenty-four millimetres, while the spongy portion of the urethra measured thirty-two millimetres. In the event of the stricture being situated in the bulb, it was necessary to cut the meatus still more freely. But by employing a urethral expander, which he had devised, he had found that incision of the meatus was quite unnecessary when the normal relation existed between the meatus and the rest of the canal. This instrument consisted of a number 17 bougie divided for two thirds of its length into two distinct parts, which were introduced while in apposition and afterwards could be separated by means of a button slipped up between them; the extent of the separation being regulated by means of a scale in the handle of the instrument. If the normal relation existed between the different parts of the urethra, this expander acted as a wedge, separating, as it did, in a transverse manner. It could be employed for the purpose of defining the anterior part of the stricture, and also for the purpose of divulsion when the wheel controlling the movement of the separating button was turned rapidly. His experience with the instrument was as yet somewhat limited, but thus far he had had every reason to be satisfied with it.

In conclusion, Dr. Gross summed up his opinions in five axioms, with a few extemporaneous remarks upon each point:—



(1.) The rational treatment of stricture of the urethra consists in restoring the natural expansibility and calibre of the affected part. The surgeon has to act here just as he would in any other deformity, that is, by endeavoring to restore the part as nearly as possible to its normal condition; just as his friend Dr. Sayre, in a case of talipes, would cut the tendo Achillis in order to bring the foot into its natural position.

(2.) The sensibility of the urethra is first to be obtunded, in order that it may not resent the violence to which it is necessary to subject it. Urethral fever almost always occurs in those cases in which no proper preparatory treatment had been resorted to, such as the exhibition of alkaline remedies, rest in bed, attention to the bowels, etc.

(3.) After all spasm and hyperæsthesia have been overcome, the normal calibre and expansibility of that part of the urethra in which the stricture is seated are to be restored.

(4.) This can ordinarily be satisfactorily accomplished only by means of internal urethrotomy.

(5.) The meatus need not be incised unless it is more than eight millimetres in circumference less than the spongy portion; and if this is the case, it need be extended only until this standard proportion has been reached. In one hundred and one cases Dr. Weir had found that the average normal size of the meatus was 24.9 millimetres, and of the spongy portion 32 millimetres; in one hundred cases Dr. Otis had found these measurements respectively 24.7 and 32.9 millimetres; and in eighty-three cases he himself had made them out exactly 24 and 32 millimetres respectively.

Dr. Gouley remarked that the general excellence of the paper was highly commendable, and that he indorsed many of Dr. Gross's views, but stated that there were some points to which he could not give his assent. The doctor, he said, began by entirely rejecting gradual dilatation, but he thought that in doing this he had not sufficiently taken into consideration the classification of strictures. There were first strictures of idiopathic origin, such as those depending on urethritis, and secondly those of traumatic origin, and the two varieties demanded different kinds of treatment. Then, again, the situation of the stricture made a great difference also.

In deep-seated idiopathic strictures he preferred to adhere to the old plan of gradual dilatation, which had never been abandoned by either the French or the English, and was still practiced by American surgeons. Strictures of this character which were of recent origin were certainly very amenable to this treatment, and in the older ones it should at all events be given a fair trial. If after a prolonged series of efforts in this direction, extending over a period of several weeks, a good result could not be obtained, it was then advisable to resort to the cutting operation. He was sorry to hear Dr. Gross say that he rejected gradual dilatation as a means of cure in such cases, as his own experience had been so favorable with this method. In these strictures it was not simply requisite that dilatation should be carried to a point corresponding with the fullest extent of the urethra in the vicinity of the stricture, but that it should be pushed considerably beyond this. When the Russian surgeon Dr. Wywodsoff was in this country, in 1876, he made a suggestion which was consid-

ered of great practical importance. Said he, "Do you really simply dilate the stricture in the process of so-called gradual dilatation? Do you not after a time expand the urethra to a point where the submucous fibrillæ are actually torn? This has been my idea for a long time, though I have never been able to demonstrate it positively." The truth is, if this be so, that in gradual dilatation, carried to the extent to which it should be, we are practically making a divulsion. Some of the elastic fibres may contract after it, but with proper subsequent treatment the cicatricial tissue is never reproduced to such an extent as to cause any troublesome contraction. Dr. Gouley had had cases under observation now for ten or twelve years in which no recontraction has taken place, and therefore, differing from Dr. Gross, he did believe in gradual dilatation as a means of cure. Ordinarily he paid no attention whatever to the meatus; but if it were so narrow as to interfere with the full dilatation of the urethra beyond, he incised it until it was large enough to admit of the passage of a sound of appropriate size.

In regard to divulsion proper, Dr. Gouley agreed with Dr. Gross in looking upon it as a good operation under certain circumstances. He considered it of service in indurated strictures situated in the perineal portion of the urethra, but a very bad operation in those of the spongy portion.

In the fixed portion of the urethra free dilatation, resulting in divulsion, had proved a very successful operation in his hands, as in those of a number of English surgeons; though some of the latter now seemed to be infatuated with urethrotomy, and discountenanced it. In this situation he had practiced divulsion somewhat more than three hundred times with very satisfactory results, and he wanted to denounce urethra-cutting. His plan was to begin with a filiform bougie, and then pass over it successive numbers of his tunneled sounds until he reached number 14 or 15 perhaps, when he would resort to the ordinary sounds and carry them up to any number that was desired. In case the meatus was not sufficiently large, even after proper incision, he also used the urethral expander; but he had as yet had no opportunity of trying Dr. Gross's instrument. The essential point in all his operations was to make the urethra larger at the seat of stricture than it had been before the stricture had occurred, and this was done in order to allow for a certain amount of contraction in the future. His ordinary practice was to carry on expansion until the point of stricture would be as much larger than the normal calibre of that portion of the urethra as would be represented by four or five numbers in the scale of sounds. By this method of divulsion, he said, one avoided making large rents in the tissues; for the small ones were just as efficient, and were much less liable to lead to general infiltration of urine, or other unpleasant consequences.

He could not claim originality for his mode of operating, although he had worked out the idea himself before he knew that it had been previously acted upon, in a blind sort of manner, by a Swiss surgeon named Matthias Mayor, who was greatly abused by Vidal on account of his forced catheterism. Without being aware that he was really making divulsion, this operator employed very large instruments, because he considered them more easy to introduce and less liable to cause injury than small ones.



In regard to internal urethrotomy, Dr. Gouley said that he thought it was practiced to far too great an extent at the present time, and that a great deal of harm resulted in consequence. Only that very day he had received an English journal in which there were no less than three papers advocating some form of this operation. The result of all this cutting was that the urethra was practically destroyed, becoming like a worn-out India-rubber tube. The whole of the spongy portion became blocked up with inflammatory material, and an interstitial contraction took place. He then went on to say that it was a boast of his that he performed so few urethrotomies. From the time that he first saw a case in Bellevue Hospital, in 1851, the total number of his operations of this character had amounted only to forty-three, and he would venture to say that there were several much younger men present who had done it a far larger number of times than that. He considered Dr. Gross's instrument, based as it was on that of Civiale, a very excellent one; but in view of the immense number already in the hands of the profession he was inclined to believe that every man who invented a new urethrotome ought to be treated as a criminal, although he had to confess that he himself had once been guilty of the offense. In conclusion, he remarked that his views on external urethrotomy were too well known for him to reiterate them on this occasion.

In reply to a question from Dr. Gross as to whether he thought he could restore the calibre of the urethra as well by divulsion as by internal cutting, Dr. Gouley stated that he was positive that he not only could, but that he actually had done so in a vast number of cases during the last few years. If a man who had had a stricture ten or eleven years ago so small that it would not admit a number 1 sound, and had been treated in this way, should come back now perfectly well, it would be pretty good evidence of the character and permanency of the cure; and Dr. Gouley said that this had happened to him repeatedly. The operation by divulsion has the same effect as that of internal urethrotomy, namely, that of putting in a splice of tissue to extend the calibre of the urethra at the point of stricture. Of his forty-three cases of internal urethrotomy, in thirty-three the stricture was situated anterior to the junction of the penis with the scrotum, and one death occurred among them. On the other hand, there were but two deaths in more than three hundred cases treated by dilatation and divulsion in the manner described.

Dr. Gross: Do you consider it necessary to divide the meatus urinarius when it bears a normal relation to the rest of the urethra?

Dr. Gouley: I do not think it is necessary.

Dr. Otis, being called upon by the chair, stated that he felt much gratification in finding himself so nearly in accord with the distinguished author of the paper. In regard to the incision of the meatus, however, he considered it a great mistake to adopt any such standard of relative size for the orifice as Dr. Gross had done. It was true that the average of a certain number of measurements of normal urethræ at the meatus and the spongy portion was about twenty-four and thirty-two millimetres respectively; but if a standard was to be set up from any such observations, as well might the shoemaker

set up an absolute standard for the human foot, and make everybody's shoes in accordance with it. He did not consider the size of the meatus as any kind of guide to the calibre of the other portions of any urethra; for although the urethra was a kind of hose given us by nature, it was not made expressly for the purpose of ejecting urine to a great distance. Out of the hundred cases alluded to by Dr. Gross as having been examined by him, in less than twenty was there a meatus at all corresponding with the size of the urethra. If this was the normal condition when the urethra were normal, he thought the canal should be of the same size as the meatus. In the newborn there was no fossa navicularis, and he considered it an artificial distention. In many cases of stricture the meatus was so small that even the most conservative in their opinions on this point found it necessary to divide it.

As a consequence of contracted meatus, various reflex disturbances of grave character had been observed, not only in the bladder, but in other parts of the system, and among these were various neuralgias in the back and limbs, sometimes extending to the soles of the feet, derangements of digestion, and even paraplegia occasionally. Dr. Otis mentioned that he had formerly thought that he was the first observer to discover these facts; but that he had recently become aware that Civiale had anticipated him in this respect.<sup>1</sup> It was astonishing, he thought, that Sir Henry Thompson, who was a pupil of Civiale, had made no mention of the matter in his writings. It was his firm conviction that the meatus should always be divided until it was equal in calibre to the fossa navicularis; which after the ordinary amount of contraction had taken place would bring it to about the size of the rest of the canal. This cutting was necessary in gleet, because it was impossible to have a tube of this kind with a contraction at any point without some friction and irritation being thereby produced.

His plan of beginning the rational treatment of stricture was to do so by preventing it; and he thought the day would come when it would be considered criminal on the part of the surgeon to allow a man to contract a close stricture. Gonorrhœa was acknowledged by all to be the cause of stricture, and yet patients suffering from this affection were almost invariably permitted to pass from under treatment without a single word of warning as to the danger hanging over them. After a while gleet would set in, and then they would wake up suddenly some morning and find that they had retention of urine. All this was the fault of the surgeon for allowing the case to go on until such consequences resulted. If in any case we found there was a stricture present, we should at once restore the parts to their natural condition. This was to be done by operation, but he considered it a great mistake to attempt it by gradual dilatation and divulsion. The tissue to be dealt with was a contractile tissue, and it always would contract after being stretched, even though it should be distended until the calibre of the stricture were made far greater than the normal size of the part.

<sup>1</sup> After the discussion was concluded, Dr. Gouley pointed out the fact that in his work he distinctly showed that the attention of the profession was especially called to such manifestations as these, as symptomatic of stricture, by Mr. Luxmoor, of London, as early as 1809, long before Civiale's time. See Gouley on Diseases of the Urinary Organs, page 16.



What then should be done? The stricture should by all means be divided. In six hundred recorded operations of internal urethrotomy he had never once had any disastrous effects result, but, on the other hand, there had been entire disappearance of the stricture in every case where a complete cutting had been made. Within the coming month he expected to report fifty cases of perfect cure, in which all the patients had been finally examined at considerable periods after the operation.

Dr. Keyes thought it was possible to talk to any extent on this subject, which had always been a notorious one for discussion among New York surgeons. He had always considered it the first axiom in urethral surgery to let everything alone until symptoms should arise demanding attention; but if Dr. Otis's idea were to be followed out it would be necessary to rifle every male urethra in the community, and there would have to be a number of practitioners whose sole duty it would be to examine people for strictures. In his own experience gradual dilatation by means of steel instruments had proved the best method of treatment of stricture; and in any case the patient was let alone whenever he was free from symptoms, without reference to the exact size to which his urethra might have been brought. It should be our aim, he thought, to treat disease in general in such a way as to get rid of the trouble occasioned by it; but if in any case there were pathological conditions present, such for instance as hæmorrhoids or enlarged prostate, without producing any symptoms, he would not consider it good practice to interfere.

There could be no question that gradual dilatation was in the long run very effective, and if after it had been employed there were no symptoms the patient was certainly practically well. After the treatment had been discontinued he could pass the sound himself from time to time, and with a little practice could do it a great deal better than the most skillful surgeon. As adjuncts (and not substitutes) in certain cases he was in the habit of employing internal urethrotomy when the stricture was situated in the pendulous portion of the urethra, and divulsion when in the deep part. Both operations were good in their way, but cutting was better in the anterior part of the canal on account of the efficient manner in which hæmorrhage could be controlled there; while on account of the difficulty of controlling this in the posterior portions divulsion was preferable in this situation. Neither of them were of universal application. He had had but one death from divulsion, but still he was convinced that gradual dilatation was by far the safest of all, and the safety of such an operation was certainly a matter of vast importance.

In regard to the incision of the meatus, Dr. Keyes remarked that he could not see any reason for cutting unless it were positively necessary in order to dilate the stricture sufficiently. If, when the calibre of the meatus had been reached in the sounds employed, the symptoms ceased, he would stop there; but if they did not then disappear he would enlarge the meatus. But however much the meatus were extended, and however freely the stricture itself were cut, he did not believe the normal character of the canal could be entirely restored. He had himself cut patients until the seat of stricture would admit a number 42 sound of the French scale, and yet a number of distinctly rubbed places could be detected with a number 40 bulb. In like manner he supposed that if the stricture had been enlarged to 52, a 50 bulb would have detected them. If

relief from symptoms were obtained, it was all the cure that we could reasonably desire; and it was a fact that there were some cases which did not get well, no matter how freely they might be cut.

At this point Dr. Gouley asked Dr. Otis if by the six hundred operations to which he had referred he meant six hundred distinct cases or six hundred strictures; to which the latter replied that there were six hundred strictures, and but four hundred cases, and that there had not been a single death among them.

Dr. Weir, the president of the association, was the next speaker. He commenced by quoting some statistics sent him by Dr. Mastin, of Mobile, who preferred dilatation as a rule. As most of the strictures, however, were in the anterior portion of the urethra, he employed urethrotomy a great deal. There had been ten deaths in one thousand cases, but in two hundred and ninety-one of these there was no death. Such statistics, Dr. Weir thought, did not afford us a fair opportunity of judging in regard to the mortality of operations. Strictures situated in the anterior part of the urethra were not, as a rule, very tight, and could be treated with the knife almost with impunity; but in regard to those in the deeper portions it still seemed to be an open question as to which method of treatment was really the safest and best. For his own part, however, he did not see why we should divide moderate strictures.

During his various terms of service at the New York, the Roosevelt, and St. Luke's hospitals he had operated in one hundred and fifty cases, with a mortality of fourteen, or nine per cent. He had performed internal urethrotomy fifty-one times, with a mortality of five per cent., and of these cases twenty-two admitted only a filiform bougie. Thirty-one of the strictures were situated at or near the bulbo-membranous junction, and the others in the anterior portion of the urethra. He thought it a matter of great importance in recording cases that the operator should always state definitely whether the stricture were in the deep or anterior portion. He had twenty-eight cases of external urethrotomy with six deaths, or a mortality of twenty-one and a half per cent.

Dr. Otis stated that in the greater proportion of his cases the stricture was situated within the first three inches from the meatus, and that he had met with a large number of instances in which deep strictures were supposed to be present, but really did not exist at all. Surgeons were often deceived by the effect produced by contraction in the anterior portion, but when this part was well cleared the supposed deep-seated stricture was also found to disappear. Only a few days before he had seen a case in which he at first thought there was a filiform stricture in the deep part of the urethra, but when an existing anterior stricture was removed a number 35 sound passed into the bladder without the slightest difficulty. There had been simply a spasmodic constriction caused by the anterior stricture. He was himself entirely opposed to deep urethrotomy unless it were absolutely necessary, and would never think of attempting it until all trouble had been removed in the anterior portion of the canal.

The concluding remarks were made by Dr. Gross. After corroborating Dr. Otis's views upon the last point, he spoke of the relative mortality of operations in private and hospital practice, and stated that in his experience this was



much greater in the latter than in the former. In the Philadelphia Hospital he had once lost three out of twelve cases, all of the three men being affected with granular contracted kidney; while in private practice he had had seventy-five operations by divulsion or internal urethrotomy without a single death. He then went on to state that he still held that no man has ever *cured* a case of stricture by gradual dilatation. "Let any surgeon you please treat a case for ten weeks or ten years in this way, and I will venture to say that at the end of that time the stricture will still be found the same as before, if the man be examined by competent judges." As Dr. Keyes had remarked, there might be no symptoms, but the stricture would still be there. He therefore considered gradual dilatation entirely useless as a method of cure. It might make the patient comfortable, but it did not get rid of the cicatricial tissue always present. If the normal anatomy of the urethra were studied, it would be proved that there were longitudinal folds in it, made up of reduplications of the mucous membrane. These were seen when the canal was relaxed, but when it was distended with urine these folds disappeared, on account of the stretching of the parts. It would furthermore be found that these rugæ depended on elastic fibres underneath the mucous membrane. In stricture, he continued, inflammatory action always precedes the constriction, and, as a consequence of this, the longitudinal folds become glued together, so that the urethra can no longer be distended as it ought to be. Now, why do we try to attempt a permanent cure? In order that the canal may again be distended to its natural size. By urethrotomy we "put in a splice," and cause the formation of new rugæ; and that splice can never be put in by dilatation, though we can perhaps do it by divulsion.

Divulsion is very good as a temporary expedient, as in the case of a laboring man, for instance, on account of the saving of time. But afterward, when a favorable opportunity occurs, we should always complete the business by means of urethrotomy. I do not hesitate to say that the cutting operation is as safe in the deeper parts of the urethra as anywhere else; but when I make this statement I do not mean the operation as performed with such instruments as that of Dr. Otis, which is really a divulsor as well as a urethrotome. As a consequence, more hæmorrhage is excited by it than there ought to be. If the kidneys and other portions of the urinary apparatus are in a healthy condition, urethrotomy with a proper instrument is as safe an operation as the simple passage of a catheter. In the Philadelphia Hospital I have met with two cases in which catheterization was followed by death, the kidneys being diseased, and uræmia setting in.

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## PROCEEDINGS OF THE CONNECTICUT MEDICAL SOCIETY.

### EIGHTY-SEVENTH ANNUAL MEETING.

THE society met for business at three P. M., Wednesday, May 22d, at New Haven, with an unusually large attendance of Fellows. The society is made up of a union of the eight county societies, and the business of the state society is transacted by five Fellows elected from each county and the officers of the society. The presidents of the county societies are *ex officio* vice presidents of the state society.

According to custom the president, Dr. R. Hubbard, of Bridgeport, gave a brief address of welcome, reviewing the history of the year and the work of the society in the past, outlining the principal business before the convention, and congratulated the society on the establishment of a State Board of Health.

Several amendments to the by-laws were disposed of, and the following resolution adopted unanimously and referred for final action as a by-law next year : —

“ Each county association shall have power to examine, discipline, or expel any member professing or avowing to practice allopathy, homœopathy, hydropathy, or according to any exclusive system or dogma.”

Dr. S. G. Hubbard, of New Haven, read a memorial from the New Haven County Medical Association entitled *The Profession and its Relation to the Public*. The object of the paper was the guarding against the admission of unqualified men to practice in this State, and the securing of suitable legislation to obtain the desired result. The memorial, after setting forth previous steps taken in this direction, and other matters in point, concluded with the following resolutions : —

Whereas, There is nothing in the statute laws of Connecticut which prohibits any individual from publicly assuming the title and functions of a physician, without the least knowledge of medical science ; and

Whereas, The perfect freedom thus guaranteed to quacks and itinerants from other States to practice their frauds in this State without legal impediment offers special inducements to this class of pretenders to select this State for their field of operations, greatly to the damage of the lives and property of the citizens ; therefore

*Resolved*, That in the opinion of this association the best interests of the people and the claims of public policy alike require certain legal restrictions, at least to the extent of requiring that hereafter every practitioner of medicine shall be a graduate of a regularly chartered existing medical college, or shall have been licensed to practice by some one of the medical societies chartered by this State, and duly authorized to grant licenses.

*Resolved*, That these resolutions be signed by the officers of the association, and be transmitted, with the foregoing memorial, to the president and Fellows of the Connecticut Medical Society at their annual meeting ; and that the Fellows from this county are hereby respectfully requested to use their influence to secure appropriate action thereon, to the effect that the subject may be brought by a suitable committee before the next General Assembly in a well-considered and practicable bill for a public act regulating the practice of medicine in this State.

The paper was referred to a special committee, who reported in favor of a committee, to be appointed from each county, to draft a bill and submit the same to the medical organizations in the State to secure their coöperation, and report to the next convention.

The subject of granting licenses to practice medicine was then brought up, with direct reference to a recent case where the power that had not been exercised for many years was revived. It was claimed that undue influence had been exerted by Dr. Willard Parker, of New York, in writing to the exam-



ining board, requesting their favorable action ; and that the candidate, failing to pass a satisfactory examination, was nevertheless licensed. The power to grant licenses still belongs to the state society, though seldom exercised, and a committee was appointed to endeavor to secure an act rendering all licensing illegal hereafter, or requiring the same qualifications as for a degree. The power of granting degrees in this State is shared by the Connecticut Medical Society and the Yale Medical School, and is embodied in a regulation of the charter. The following resolution was passed, which may also embrace other changes, and in all probability will include the requirement of a preliminary examination before entering the medical school at Yale, which has already advanced as far in efforts to elevate the standard of medical education as charter limitations will allow : —

*Resolved*, That the Connecticut Medical Society be requested to appoint a committee of three to confer with a similar committee representing the medical college, to consider the propriety of making some changes in the charter of the Medical Institution of Yale College, with authority to coöperate with said committee in securing from the legislature such alterations as may be mutually agreed upon.

The president appointed as members of the committee C. W. Chamberlain, M. D., Luther H. Wood, M. D., and H. P. Stearns, M. D.

The officers of the society are nominated by a committee composed of one from each county society, and chosen by the Fellows present from each county.

The convention then proceeded to the election of officers and committees for the year ensuing, upon report made by the nominating committee, the result being as follows : President, C. M. Carleton, Norwich ; vice-president, A. R. Goodrich, Vernon ; Treasurer, F. D. Edgerton, Middletown ; Secretary, C. W. Chamberlain, Hartford.

Committee on matters of professional interest, W. A. M. Wainwright, Hartford ; H. W. Buell, Litchfield ; and A. Woodward, of Franklin.

To fill vacancies in the examining committee, M. Storrs, of Hartford, and J. Witter, of Putnam.

Committee to nominate professors for the medical institution of Yale College, Samuel Lynes, Norwalk, and L. N. Beardsley.

Committee to nominate physicians for the Retreat for the Insane, L. Holbrook, of Thompson, and H. M. Knight, of Lakeville.

The treasurer's report showed a gain of one hundred and forty dollars in the treasury in excess of the balance of last year, and indicated an efficient management of the financial department.

After transacting the usual routine business, the society adjourned until eight P. M., for the report of the committee on county resolves, to which had been referred a case of discipline.

Evening session. The society assembled at eight P. M., the vice-president, Dr. C. M. Carleton, in the chair.

The subject of an act regulating the practice of medicine was discussed fully. There was a pretty decided agreement as to the desirability of such a measure, but considerable difference as to methods. In order that the bill might embody the most effective provisions, and those found most practical in

other States, it was finally decided to request the committee to report a bill to the next convention, which should previously be sent to each county society, and to the individual members for suggestion, and to gain their aid in securing legislative action.

The committee on county resolves presented a majority and minority report on the case of Dr. M. B. Pardee, of Norwalk, expelled from the county society for consulting with his wife, a homœopathic physician. The grounds on which the majority report was based were that the charges were not proven, as there were no affidavits presented not met by as strong counter-affidavits from the same or connected parties, while the *prima facie* evidence, taken in connection with the other, rendered acquittal impossible. The case was therefore referred back to the county society. The minority report recommended expulsion.

The case was thoroughly presented in all its aspects, and after a long debate lasting until midnight the majority report was sustained.

Thursday, May 23d. The society met at nine A. M. The secretary reported the names of thirty-one new members and sixteen deaths, a very unusually large mortality. Ten were over sixty years old, the oldest eighty-seven, the youngest twenty-nine. The deaths of three honorary members were reported, — Dr. Nathan R. Smith, Baltimore, Dr. Hiram Corliss, New York, and Dr. Thomas Sanborn, of New Hampshire. The society now numbers 395 against 384 last year, and is steadily gaining each year.

The president, Dr. R. Hubbard, of Bridgeport, read his annual report on The Mutual Relations of the Public and the Regular Medical Profession. He began by speaking of the strenuous efforts made to discover some complete science of medicine, or universal law of cure, by which to determine all measures to be adopted for the protection of human life and health, and was compelled to admit that, notwithstanding the great advancement made, the profession must still find its way in many directions by the faint light of experience, or of rational empiricism. He spoke of the duty of all regular practitioners in the profession to stand between the public and all sorts of medical pretenders and impostors. Hydropathy, Thompsonianism, botanicism, and other exclusive systems were spoken of as one-sided theories, worthy of only passing notice. Homœopathy, he said, had long held an attitude to the public of hypocrisy, and towards the regular profession and their principles and practice of unmitigated, persistent denunciation. At first homœopaths followed the theories of the Hahnemannian system, but "homœopathy, to-day, tried by the criterion of its standard literature, does not exist; its votaries have long since, without a visible struggle, abandoned one of its only two distinctive dogmas, namely, that of the potency of infinitesimal doses of articles of the *materia medica*, and have made such rapid progress in the administration of the 'raw material' that it requires a practitioner of no ordinary courage in the 'old school' to emulate their heroism." "We believe the homœopathic system to be false in theory and pernicious in practice, and therefore that we have no moral right to pursue such a course as will indicate to the public that it is worthy of confidence. This is not stronger than the language of Hahnemann



himself." The eclectic system, the second and last competitor for public favor, is an outgrowth or culmination of Thompsonianism and the botanic system. The speaker said that this, like all exclusive systems of medicine, offers no new principles that will bear critical analysis, but is marked rather by an arbitrary selection of certain articles of the *materia medica*, giving preference, without any good reason, to those derived from the organic kingdom, and ruling out specially the several compounds and preparations of mercury, arsenic, antimony, and lead. This was characterized as absurd, as these articles had been proved to be entitled to rank as remedies by the experience and observation of those who have tried them. He closed by speaking of the many valuable inventions and improvements of late years.

Dr. A. M. Shew, of the Middletown Insane Asylum, presented a dissertation on The Relations of Insanity to Law. He treated the subject in all its bearings in a masterly and exhaustive manner, and presented many practical points which will doubtless be brought up for legislative action in the near future.

The *Ætiology and Treatment of Puerperal Convulsions* was discussed in an essay by Dr. L. S. Paddock, embodying a clear *résumé* of all that is known on the subject.

The report of the Committee on Matters of Professional Interest in the State, read by Dr. Wainwright, of Hartford, touched, among other things, upon typhoid fever. Concerning the cause of typhoid fever there are two distinct theories: (1.) The theory that the poison of the fever originates in the decomposition of organic substances. (2.) The theory that the fever poison is propagated continuously, and never originates *de novo*. This latter belief originated with Budd, and is followed most firmly by Liebermeister, who was quoted by the report at some length. The committee looked into the two theories, and obtained statistics that showed that in Great Britain there are annually 140,000 cases of typhoid fever (15,000 of them fatal), and in the United States 37,605 persons (census of 1870) die of this disease. In conclusion, the report advises careful study, upon the part of the members, of this disease in all its bearings, and of these there is none of greater importance than its *ætiology*.

The following are the questions sent out by the committee, the object of 5 and 6 being to stimulate thought and investigation: (1.) What diseases have prevailed in your locality during the past year? (2.) Has there been any serious epidemic? (3.) To what extent has typhoid fever prevailed? (4.) Have you observed any change in the type of typhoid fever during the past ten years? (Is the disease as frequent, severe, or fatal as formerly?) (5.) In what percentage of cases of zymotic diseases have you been able to trace the exciting cause to bad sewerage, drainage, etc.? (6.) Have you ever known a case of typhoid or scarlet fever, or diphtheria, to arise spontaneously (every possible source of transmission from some previous case having been eliminated)? (7.) To what extent have diseases of malarial origin increased in your neighborhood during the past year? (8.) In vaccination, do you use bovine or humanized virus? (9.) What has been your percentage of successful vaccinations during the past year? (10.) Have you ever observed any

serious trouble to arise from vaccination? (State cases and kind of virus used.)

Dr. J. R. Bronson, of Massachusetts, was present as a delegate from the medical society of that State, and addressed the society in a very happy manner, presenting the greetings of the Massachusetts Medical Society and expressing the desire for a closer relationship between the societies.

Dr. R. F. Weir, of New York, and Dr. E. E. Holt, of Maine, presented the greetings of their respective societies with brief speeches, and urged the desirability of the Connecticut society sending representatives to the meetings of sister societies.

Dr. Russell as delegate to Pennsylvania, Dr. Hills to Rhode Island, and Dr. Chamberlain to Massachusetts reported an account of their respective visits. Among other things, the greater activity and interest of the Massachusetts society in public affairs were noted, and the social features so prominent in the Rhode Island society, as well as the large attendance and interest in the meetings, which are held quarterly.

Dr. G. P. Davis gave a very interesting demonstration of the methods used in antiseptic surgery, with exhibition of the apparatus and the details by applying the dressings, etc., under the spray from an atomizer devised by Dr. Weir, of New York. He gave a brief outline of the theories upon which the methods are based and the results obtained.

Dr. Bronson spoke of the results in the Massachusetts General Hospital, and Dr. Weir made extended remarks upon the general methods and obstacles. He stated that although thymol was less objectionable to handle than carbolic acid, it was not as effective, a larger percentage of failures occurring under its use in his hands.

Dr. S. H. Chapman presented a paper discussing the treatment of throat and ear disease, following the Vienna school mainly in his methods, and advocating the use of as strong solutions in the ear as in the throat, illustrating his theories with cases.

Dr. Barbour reported a series of four cases of thoracentesis in empyema, with recovery, rather an unusually favorable percentage. Two were aspirated, and in two free drainage was established.

The remainder of the session was occupied with the reading of voluntary papers, principally of unusual cases: Hemiplegia Alternans, Dr. W. C. Burke; Spinal Meningitis, Dr. C. M. Carleton; Extra-Uterine Pregnancy, Dr. E. F. Coates; Cardiac Thrombosis, Dr. I. W. Lyon, etc., etc. The session closed with a dinner at the New Haven House, which was a very pleasant affair.

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## PROCEEDINGS OF THE GYNÆCOLOGICAL SOCIETY OF BOSTON.

HENRY M. FIELD, M. D., SECRETARY.

THE ninety-first regular meeting of the Gynecological Society of Boston was held, according to announcement in the JOURNAL, at the Evans House, on the first Thursday in May, at three o'clock P. M. After the transaction of preliminary business, the doors were opened to such of the profession as had



responded to the general invitation to attend. Among others present were Drs. Garratt, Gilman, Kimball, Marcy, and Norris of Cambridgeport, Jones of Newton, and Wingate of Wellesley.

DR. CUTTER, active member of the society, proceeded to give a digest of Fifty Cases of Uterine Fibroids treated by Electrolysis, conjointly by himself and Dr. Kimball. It is impossible to give any sufficient report of this interesting and striking paper, which, from the mass of material and the limited time, could be presented only in the most concise and summary way, but by previous arrangement with the author and the society an adequate review will appear in the *American Journal of Medical Sciences* in July.

The uterine fibroid had proved intractable under other methods of medical and surgical treatment, but results by electrolysis had exceeded expectation. Two ladies, who had been cured by this method, had kindly consented to be present, and were introduced to the society, — their cases being given in detail.

Upon invitation of the chair DR. GARRATT followed with brief remarks. The question of interest is, Does the electric fluid pass through the tissues? He formerly believed that it did not; he now knows that it does. He had given a great deal of study to this question; an ordinary galvanometer will not solve the problem, but his own more perfected instrument had done so. The old idea that the human body resists the passage of the electric fluid is false; it is a better conductor than water; indeed, one of the best of conductors. He did not understand how the process was set up by which the tumor was removed, but that it accomplishes such removal there can be no doubt. Dr. Garratt farther observed that when Dr. Cutter first called on him some years ago with the project, which had been so well developed and so completely justified by the paper just presented, he was skeptical; very willing that the experiment should be made, but he had no faith in any practical results. He was glad to testify that Dr. Cutter was right, and that he had gone farther in this department than he had himself.

DR. WARNER asked whether the electric fluid would as readily pass through dead as living flesh.

DR. GARRATT replied: No; experiments on the cadaver were not conclusive.

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## THE OBLIGATION OF THE MASSACHUSETTS MEDICAL SOCIETY TO FEMALE PHYSICIANS.

AN article on another page takes ground on this subject so opposed to our own views that we feel called upon not to let it pass without comment. The writer truly says that the society is intended as a body to regulate the standard of education in the State, "to fix a minimum of attainments" considered necessary for a respectable practitioner. In addition to this, the prime function of the society, there are also the scientific, ethical, and social features, which, under the wise management of past years, have made this body one of the most harmonious, prominent, and highly respected of its class in the country.

Does such a body as this sacrifice its reputation for liberality and progressive-

ness by declining to receive women into its ranks? This is a question answered by Dr. Edes in the affirmative, arguing, as we think, from a somewhat ideal point of view, although not granting that privilege to the society. Taking a matter-of-fact view of the situation, a position which it behooves every member to assume in considering so radical a change, we may well ask, in the first place, why a medical organization like ours should be held up to be stigmatized as a brutal example of selfishness in excluding women. It is claimed that as a scientific body we have no right to make distinctions of sex; but there are innumerable bodies of the kind in this city and all over the country, of the highest standing, which do not contemplate any such change. Whether we look at the question from a business or an educational point of view, we still find most important branches of industry and many of our oldest seats of learning, sources of national prosperity, preserving a most conservative attitude; indeed, the very government itself does not give the slightest control to a class which furnishes a large portion of its revenues. But taking example or precedent for what they are worth, if we look the motives underlying this movement squarely in the face we shall find something akin to that peculiar restless spirit which impels Americans to seek a higher walk in life than that for which by their surroundings or education they have been fitted. In the miscellaneous collection of individuals whom we are to receive as applicants there are undoubtedly a few well-educated women fitted for the duties they have undertaken. Not only these will be candidates, but others who have picked up an education which, rated even by the prevalent low standard, would be considered meagre, and who, although they might prove excellent midwives or nurses, would hardly be considered desirable colleagues either from a scientific or social point of view. To give, then, somewhat indiscriminately to these persons the privileges of membership, as, under pressure of public sentiment, we should be likely to do, seems to us to foster that unhealthy ambition which it should be our duty as an educational and scientific body of good standing to discourage. Regarded in this light the functions of our society require us carefully to avoid confusing education and science with questions of sentiment and taste. Though, taken from the latter point of view, we think a strong conservative element would be found which looks with disapprobation upon the fashion in Massachusetts to try all sorts of quixotic experiments, and who regret to see women unsex themselves by breaking through barriers hitherto considered sacred, when opportunities for less sensational but more useful careers abound. With all the good will in the world, however, towards female physicians as a class, we may still hesitate to take a step which the founders of the society never contemplated, and which may endanger the very objects they and their successors have always had in view. By leaving the woman question to take care of itself, to grow up or fail on its own merits, to demonstrate the capability of women to study, to teach, to practice, to organize themselves into an influential and respectable body without adventitious aids, the society would, it seems to us, impose upon the reformers no severer conditions than the world usually exacts, and such as would in the end be most advantageous for their future welfare should they succeed.



## MEDICAL NOTES.

— The annual meeting of the Massachusetts Medical Society will be held on Tuesday and Wednesday next at the rooms of the Lowell Institute. We have already given a list of the papers to be read. The special features of the meeting will be the proceedings of the Massachusetts Medico-Legal Society, to which Tuesday afternoon will be devoted; the annual discourse by Dr. Francis Minot, an abstract of which will be given in the *JOURNAL* of next week; and the dinners in the Music Hall, which will be presided over by Dr. Peter Pineo, of Hyannis, under whose able management the entertainment promises to be an unusually agreeable one. We understand that Dr. S. D. Gross, of Philadelphia, will be present, and also Dr. Woodworth, of Washington.

— The Roxbury Dispensary, which has been carried on for many years as a separate organization or under the charge of the Roxbury Charitable Society, was given up June 1st on account of lack of funds and the great expense attending it. There is now no provision for the sick poor of the Highland District except at the City Hospital.

— It has been wickedly remarked that a woman who practices medicine commits two faults: she increases the number of doctors and diminishes the number of women.

— A Paris correspondent of the *Lancet* writes that three chairs devoted to specialties have, "with considerable diffidence and hesitation on the part of the professors," been established in the Medical School of Paris. He also says that in the Exhibition is a series of "plated human brains" prepared by the galvano-plastic method, by Dr. Oré, of Bordeaux. Externally the brains present the hard, brilliant surface of a metal, the inner surface having the consistency of mastic and being quite unalterable.

— Placenta prævia with excessive flooding, use of tampon, expulsion at fourth month of a dead and retention to full term of a living twin are points of interest in a case reported by the *American Practitioner*.

— Dr. Oertmann suggests a "new method" for determining the temperature of patients, namely, to have the urine directed in a strong current against the bulb of the thermometer. Seven seconds of this procedure will suffice. This method was proposed ten years ago by the late Professor Dickson, of Philadelphia.

— Dr. Dietl has been made professor of experimental pathology at Innsbruck.

— In the London *Lancet* we find these sensible and seasonable remarks in reference to training for boat-races: "Every year we hear of improvements in the method of training pursued, and a discarding of many absurd restrictions and antiquated ideas. There is one notion, however, that still holds firm possession of the rowing-man's mind, and that is the doctrine of *internal fat*. The shortness of breath he experiences at the commencement of training, he will admit, is caused by embarrassment of the respiration and circulation before the system accommodates itself to the work thrown upon it by the increased muscular exertion. But when this accommodation is effected, how is it, he argues, that he occasionally finds his wind fail him over the course unless

the view of internal fat be adopted? The supposition, however, of a deposit of fat occurring to any extent at the age at which the majority of men go into training is untenable, and the suddenness with which the respiratory trouble appears and disappears is against the time-honored view. The rational explanation of these occasional attacks of "short wind" lies in a distended condition of the bowels, either with undigested food, or flatulence, or accumulated feces; for constipation is one of the rowing-man's chief difficulties. The dyspeptic trouble may be due to an exhausted condition of the body, and may be a sign that the muscular exertion is too severe; but generally it is due to taking a heavy meal too soon after hard exercise. The presence of undigested food, as well as accumulated feces, leads to flatulence, by which the distended bowels become still more distended. And it is easy to understand that whatever distends the bowels encroaches upon the respiratory cavity, and embarrasses the breathing. Instead, therefore, of attempting to diminish an imaginary deposit of fat by increased exertion or restriction of certain articles of diet supposed to favor its formation, he should combat "this wind in the wrong place" by a change for a day or so to a lighter and more digestible diet, — from beef and mutton to poultry, — and clear the intestinal canal at the earliest opportunity of the undigested residue and fecal matter with a dose of Fredrickshall or Pullna water."

— Rhode Island has organized a State Board of Health with Hamlet (Dr. Snow) left out. The *Record* thinks this is not a very strong argument in favor of the good intentions of the framers of the law.

— Oxalate of cerium is recommended in chronic cough. In five-grain doses it is said to give comfort to the lungs and relieve the cough for twenty-four hours after each dose.

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## COMPULSORY STATE EXAMINATIONS IN GREAT BRITAIN.

MR. EDITOR, — The legislatures of Great Britain and of some of the United States have introduced within the last few weeks bills for the better regulation of medical examination and registration. It may therefore be of interest to your readers if I give them an account of the present position of the medical profession in Great Britain, and of the means by which an entrance into the profession can be effected.

There are in the United Kingdom of Great Britain and Ireland nineteen bodies which have the right to examine students and to grant them qualifications entitling them to be registered as legally-qualified medical practitioners. Of these nineteen bodies ten are universities which confer degrees in medicine and surgery (bachelor of medicine, doctor of medicine, or master in surgery), the other nine bodies being colleges or societies which grant a diploma or simply a license to practice in medicine or surgery, or both. Many of these corporations have more than one variety of diploma at their disposal, and hence there has arisen a great multiplicity of medical titles and qualifications, any one of which is sufficient to enable its holder to practice.

This multiplication of licensing bodies would matter little if the standard of examination were the same in all, or at any rate if it were quite certain that none of the examinations were below a well-defined minimum of severity;



but, unfortunately, this is by no means the case, for there is a tendency among some of the minor corporations to bid for students by holding out the inducement of an easy examination, and hence a competition of a very unhealthy nature is apt to be set up. In this way it has arisen that the holder of a license from a college in London — say the College of Physicians — will have had to pass an examination of a very different order from that which obtains the diploma of a college of the same name in Scotland or Ireland, and the degree of M. D. varies very much in value according to the status of the university which has granted it. It is needless to say that great confusion has arisen in the minds of the uninitiated as to the relative value of the different diplomas, and so far as the public is concerned a student gains little by putting himself to the trouble and expense of obtaining a first-rate degree.

It may be asked, How has it arisen that there is such a multiplicity of licensing bodies, and how have the existing corporations obtained their legal recognition to grant diplomas and degrees? This is to be traced back to the days when centralization had scarcely begun to make itself felt, and when each small district contained within itself all the machinery necessary for the conduct of its own affairs. Each of the several kingdoms which together make up the United Kingdom contained its own metropolis, which formed the political and intellectual centre of its own district. In each metropolis a College of Physicians and a College of Surgeons was founded; and just as Ireland and Scotland retained many of their political institutions independent of those of England long after the union between the countries, so they have kept their own Royal Colleges of Physicians and Surgeons, from which Scotch and Irish students respectively obtain their diplomas. Each metropolis, moreover, has its own university, and in addition other universities have been founded in various districts, many of them centuries ago, and in all of these medicine originally constituted one of the faculties, and each of them has retained its ancient right to grant medical degrees. The power thus attaching to these various bodies was originally obtained by virtue of a separate charter granted by the crown to each of them, and it was not till 1858 that the first step was made towards binding them together under one controlling head. In that year a medical act was passed through Parliament, which defined the rights of the existing bodies and established the necessity of a registration by all practitioners of their degrees or diplomas in a general register to be kept for the purpose, without which they would not be legally qualified to practice. In the year 1862 the bond thus instituted was further strengthened by the creation of a body known as the General Medical Council, which was intended to take the position of a medical parliament; to watch over the general welfare of the profession, to initiate legislative reforms, and to make itself responsible for the proper performance of their functions by the various examining boards in the country. It was to consist of twenty-four members, seventeen of whom were to be nominated by the nineteen universities and corporations already mentioned (some of the smaller bodies uniting to send a joint representative), the remainder being nominated by the crown. Hence the General Medical Council may be looked upon as a representative body for the various examining boards, even though it may not be so of the profession taken as a whole; and these boards

yielded up to it the right to grant the legal license to practice, the register being henceforth kept by the General Medical Council. But this latter body did not itself undertake to examine students, and hence it did not really interfere with the vested interests of the universities and colleges, but granted its license only to those individuals who had obtained a degree or diploma from one of them. In addition to this the Council has the right to inquire at any time into the courses of study and examinations to be gone through to obtain the diplomas of any of these bodies, and if it finds them not to be satisfactory it can interfere to get the standard raised; or on its recommendation the crown can suspend the charter of the delinquent body. In this way some guarantee is afforded that a definite minimum of knowledge will be established as a basis for medical examination, and the possibility is diminished of any one of the bodies seeking to attract students by lowering its standard unreasonably. The Council meets once a year, its session lasting about a week, and it is during that time that medical reforms are discussed and set on foot. Theoretically the working of the General Medical Council should be perfect, but in practice it is far otherwise, especially so far as examinations are concerned. In reality it has scarcely perceptibly altered the character of these. The standards vary as widely as before; the minimum amount of knowledge required by some of the corporations is allowed in all quarters to be too low; students are every day becoming legal practitioners with a very inadequate knowledge of their profession, whilst the public are as far as ever from being able to assure themselves that the medical practitioners on whom they may have to rely have been subjected to sufficient tests of knowledge. This unsatisfactory position of affairs has long been recognized, not only by the medical public and by the more stringent corporations, but by the Medical Council itself, and for several years past strenuous efforts have been made to carry into effect a scheme which has been drawn up to meet the difficulty. This scheme was to establish a state examination, which every student must pass before he could become legally qualified, which would be the same for all, and which would therefore at one stroke introduce uniformity where there is now so much discrepancy. The great difficulty in the way of this much-needed reform has been to obtain the consent of the various bodies to a plan which in the case of several of them must practically mean extinction. Parliament might, of course, have passed a compulsory act, instituting the state examination and compelling the bodies to give up their rights; but it was felt that it would be advisable to avoid so sweeping a step if possible, and to adopt the slower but more peaceable means of obtaining the desired end by getting the bodies to unite together of their own free will to establish a conjoined examination board which should consist of representatives from all the universities and other corporations, to raise this board to the dignity of an institution of the state, and to compel all students to pass through this one portal before they could be placed upon the register. The various bodies were still to retain their independence in other respects, and could grant degrees or diplomas to students; they could establish their own standards of proficiency, and, in fact, were to remain as before, except that their diplomas would not of themselves be sufficient to entitle the holders to registration, but would be regarded



merely as honorary distinctions. It was, however, found extremely difficult to obtain any unity of action on the part of the bodies concerned. Those of them whose standard was already very high, and whose degrees were accordingly already greatly sought after by the more able students, were not likely to be much interfered with, for it would be impossible to set the compulsory standard at the pitch of severity which would really test the better class of men, and hence these would still aim at distinction by adding to their state diploma that of one of the more stringent examining boards. There was then but little difficulty in obtaining the coöperation of such as these, and even certain bodies whose diploma would be practically replaced by that of the conjoined board — notably the College of Surgeons of England, which has hitherto constituted the almost universal portal for England — were sufficiently magnanimous to make the necessary sacrifice and to join in the scheme. The Scotch and Irish boards were, however, for the most part absolutely opposed to the measure. It is in these countries especially that the lowness of the standard of examination has been complained of, and it was at them that the present agitation was more particularly aimed. These bodies resisted to the utmost, and it soon became evident that without the use of compulsion no conjoined scheme would have the least chance of success so far as those two countries were concerned.

This, then, was the position in which things stood when the government took the matter up with a view to a final settlement of the difficulty. The English boards had at last agreed to a scheme of conjoined examination; the Scotch and Irish boards were almost unanimously in favor of the *status quo*. The most important medical papers called aloud for reform, and there is no doubt that they represented the general feeling of the medical profession, — at any rate in England. The government bill was introduced a few weeks ago, but gave satisfaction to no one. The question of an examination board which should constitute the sole portal into the profession is left by the bill in just the same position as it has hitherto been, for no compulsory clause is introduced, and all that the bill does is to give leave to any two or more bodies to conjoin if they think fit. This permission is of course perfectly inadequate, because of what use is it for all the English corporations to unite together to form an examining board whose standard shall be higher than the average standard has been up to the present time, if the Scotch and Irish bodies are at liberty to retain all their ancient privileged bodies who can still grant licenses to students who seek the easiest entrance into the profession, and in this way render the effort of the English boards altogether nugatory? The weakness of the government measure is so obvious, and it is looked upon with so much dissatisfaction by the majority of medical men, that its rejection is almost certain, and strenuous efforts are being made to obtain a compulsory bill which shall compel the refractory boards to make the necessary sacrifice of their private aims for the public good. We shall probably have to wait a year or two for this highly necessary step, but anything short of it would be useless, and there can be little doubt that the substitution for the present chaotic condition of things of the one compulsory state examination with its definite minimum standard is merely a question of time.

LONDON, April, 1878.

## COMPARATIVE MORTALITY-RATES.

	Estimated Pop- ulation, July 1, 1878.	Deaths during week ending May 25, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean for ten Years, '68-77.
New York.	1,093,171	439	20.88	23.42	28.71
Philadelphia.	876,118	256	15.19	18.80	21.54
Brooklyn.	549,438	187	17.69	21.51	25.50
Chicago.	460,000	108	12.21	17.83	22.39
Boston.	375,476	144	19.94	20.10	24.34
Providence.	100,000	26	13.52	18.81	19.20
Lowell.	55,798	21	19.57	19.09	22.50
Worcester.	54,937	18	17.05	14.07	22.30
Cambridge.	53,547	12	11.65	18.69	20.83
Fall River.	53,207			21.35	24.96
Lynn.	35,528	9	13.18	20.42	19.67
Springfield.	33,981	7	10.72	16.02	19.77
Salem.	27,140	6	11.49	20.38	21.15

ERRATUM.—In the JOURNAL, May 2, 1878, at the beginning of the second paragraph, page 573, for "six months" read "six years."

NORFOLK DISTRICT MEDICAL SOCIETY.—At the annual meeting of the society, May 14th, the following officers were elected: President, Dr. Robert Amory. Vice-President, Dr. William C. B. Fifield. Secretary and Librarian, Dr. Henry R. Stedman. Treasurer, Dr. Norman Call. Commissioner of Trials, Dr. T. H. Déaring. Reporter, Dr. James S. Greene. Nominating Councilor, Dr. C. Ellery Stedman. Committee of Supervision, Dr. John H. Richardson, Dr. John B. Moran. Councilors, Dr. R. T. Edes, Dr. J. H. Streeter, Dr. Joel Seaverns, Dr. A. H. Nichols, Dr. D. D. Gilbert, Dr. William P. Bolles, Dr. C. Ellery Stedman, Dr. D. S. Fogg, Dr. James Morison, Dr. A. D. Bacon, Dr. George W. Fay, Dr. Alexander R. Holmes, Dr. S. E. Stone, Dr. Joseph Stedman. Censors, Dr. Henry P. Bowditch, Dr. John W. Chase, Dr. O. F. Rogers, Dr. George K. Sabine, Dr. E. T. Williams.

THE next regular meeting of the Gynæcological Society of Boston—the ninety-first—will be held on the *second* Thursday of June, at three o'clock, P. M., at the Evans House.

The following papers may be expected:—

Dr. Field's paper on Charcot's Position respecting the Relation of the Ovary to Hysteria, etc., laid over from the last meeting.

Dr. A. C. Garratt has kindly consented to offer a contribution on the bearings of electricity upon certain points in gynæcology.

The profession are cordially invited to be present. Doors open after the transaction of society business.

HENRY M. FIELD, Secretary.

THE NEW HAMPSHIRE MEDICAL SOCIETY will hold its eighty-eighth annual meeting at Concord, June 18th and 19th. Officers: President, L. M. Knight, M. D., Franklin. Vice-President, A. F. Carr, M. D., Goffstown. Treasurer, Thomas Wheat, M. D., Manchester. Secretary, G. P. Conn, M. D., Concord. The following papers will be read:—

Modern Use of Stimulants in Disease. Has there been a Change in the Type of Disease? by T. J. W. Pray, M. D., Dover. Some of the Risks and Responsibilities connected with the Practice of Medicine and Surgery, by E. E. Graves, M. D., Boscawen. Concerning the Pauper Insane in New Hampshire, by J. P. Bancroft, M. D., Concord. Report on Surgery: (1.) Social Relations of Surgery; (2.) Surgery as a Science; (3.) Surgery as an Art; (4.) Summary, by William Child, M. D., Bath. Thoracocentesis, by G. M. Garland, M. D., Boston. On Carcinoma: Its Histology and Ætiology, by D. S. Adams, M. D., Manchester. On the Treatment of the Insane, by J. P. Brown, M. D.

The Society will adjourn for the anniversary dinner on Tuesday at one o'clock.

On Wednesday there will be reports of the district societies, delegates, and cases.



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## HINTS IN ETHICS AND HYGIENE.

AN ABSTRACT OF THE ANNUAL ADDRESS BEFORE THE MASSACHUSETTS  
MEDICAL SOCIETY, JUNE 12, 1878.

BY FRANCIS MINOT, M. D.

MR. PRESIDENT AND FELLOWS OF THE MASSACHUSETTS MEDICAL SOCIETY, — In addressing an audience whose lives are mainly spent in efforts to relieve human suffering, to save and prolong life, and to prevent disease, it seems hardly necessary to allude to the importance of the medical profession to the public. With some pride we can claim that the Massachusetts Medical Society has ever been as active in promoting the welfare of the community as in furthering the interests of its own Fellows. From its foundation it has maintained the importance of a sound medical education, of disseminating a knowledge of the laws of hygiene and of pointing out their practical application, and of denouncing everything which tends to degrade public as well as private morality. Every great undertaking in this State for the prevention of disease and for the preservation of health either originated with Fellows of this society or was mainly indebted to them for its accomplishment. The discovery of vaccination was hardly made by Jenner, in 1796, before the practice was introduced into this country by two Fellows of this society, — Benjamin Waterhouse, of Cambridge, and James Jackson, of Boston. The successful demonstration of the anæsthetic properties of sulphuric ether, but little if at all inferior to vaccination in its beneficent effects on our race, was also made under the auspices of Fellows of this society. The valuable series of reports of the Massachusetts State Board of Health, which have done so much to awaken public interest in sanitary matters, and to expose the sources of disease in our commonwealth, have been, likewise, in great part composed by our members. It is a matter of congratulation that as it approaches its centennial anniversary the society was never more active in promoting the great objects of the profession, and never animated by a more harmonious spirit, than at the present moment.

It is useful, from time to time, to take a general survey of our position, in order to see in what way our efforts may be profitably directed

for the advancement of medical science and for the promotion of human welfare. We shall thus be enabled to detect such deficiencies as may exist, and to discover the paths which lead to farther progress. The brief time at my disposal will allow me only to glance at a few important topics, and I will first call your attention to the subject of medical education.

Fifty years ago there was, properly speaking, no such thing as medical education, in the sense in which we now understand it. Medicine as an art consisted mainly in the treatment of disease by what were considered specifics. A knowledge of this art was obtained by observing the practice of those who possessed some experience in the management of the sick, by reading the few medical books that were at that time attainable (mostly theoretical), and, in fortunate instances, by attending a short course of lectures on anatomy and surgery, midwifery, and theory and practice. The idea of studying the natural history of disease had not occurred to any one. Disease was not looked upon as a perversion of health, but as a separate entity, a parasite, living at the expense of the body, from which it must be expelled, if need be, *vi et armis*. Neither physiology nor pathology was known. Chemistry was in a rudimentary condition. Hygiene had not been born. Therapeutics consisted in the administration of drugs, sometimes inert but often violent in their action, and preceded in the majority of cases by the lancet. After receiving his license to practice, the physician had to depend in great part upon his own experience for improvement in the knowledge of his art. Medical societies and journals, by which new views and new discoveries are presented to the profession for examination and discussion, and to which the advancement of medical science is so much indebted, were available to few practitioners at that time. Hence his experience demanded almost a life-time before he could acquire the confidence of the public and earn his own living.

Although medical education has made great progress since that time, especially within the last few years, there remains still much to be done. Yet in one respect the Harvard School stands alone, so far as I know: it is the only institution in this country in which the science and art of medicine are taught methodically, beginning with first principles and ascending gradually to higher branches, the student being required to pass a written examination at regular intervals before he can advance any farther in the course. The advantages of this method of instruction being as obvious in the teaching of medicine as in that of any other study, it is surprising that it should not have been sooner adopted in this country. The experiment has been fully successful, as shown in the increasing number of students and the superior attainments of the graduates. An examination in languages and natural philosophy is also required of applicants for admission who are not graduates of a



college. This is hardly a less important step in the right direction than the other, and cannot fail to have a favorable influence in elevating the character of the profession in our State. The rapid progress of medical science makes it imperative for students to be well prepared in general acquirements before entering on their professional course. The result will be an improvement in the class of applicants, and the graduation of men of a superior quality. It is true, there have been eminent physicians who received but little preliminary education before commencing the study of their profession, but these were men of unusual abilities, who were able to supply the deficiencies of their early training by superior powers of acquisition. They are exceptions to the rule that a sound medical education must be founded upon habits of study and observation, such as can best be acquired in a collegiate course. Although a knowledge of ancient languages is not considered absolutely necessary to the student of medicine, few will deny its great utility as a means of mental discipline. Familiarity with French and German is now indispensable to an accomplished physician, and it is of the utmost importance that a thorough acquaintance should be made with these languages before beginning medical studies, which leave but little time for such extra work.

The period of three years has become too short for the pursuit of all the various branches which are now requisite to a medical education, yet some important ones are too much neglected in our course. A large amount of the practice of the average physician is concerned with the diseases of women and children. The time cannot be far distant when it will become necessary to make these subjects prominent features in our curriculum. There is no clinical instruction in mental diseases, which seem to be on the increase in our community as well as in other countries. It is strange, considering the large amount of material in the public institutions of this city and its neighborhood, that there is as yet no disposition to make it available for this purpose. Another great want in our school is clinical teaching in obstetrics; so far we are obliged to depend on the opportunities afforded by dispensary practice, aided by the limited resources of the Boston Lying-In Hospital. A liberal endowment to this useful institution, with the liberty of using it for the purposes of teaching this branch of medicine, would be a great advantage to the school and a blessing to suffering humanity. It is but justice to say that, owing to the untiring zeal and industry of the instructors and assistant teachers of the school, these deficiencies are less felt than would seem possible. It is obvious that such an increase in the number of medical studies as I have indicated will require a longer time for its accomplishment than is now at our disposal, and that an extension of the course to a period of four years is only a matter of time.

In consequence of the development of nearly all the departments of study and the introduction of new ones the school has outgrown the Medical College in North Grove Street, and it has become necessary to transfer some of its laboratories to a neighboring building. Even with this relief, however, a pressing want of accommodation is still felt, and moreover the plan and construction of the edifice are ill adapted to the purpose for which it was designed. This inconvenience finally became so great that in 1874 an effort was made to raise a sum of money for erecting a building which should enable the school to carry out its projected improvements, and to insure the safety of its precious museum, which is now exposed to risk from fire. A liberal response was made to this appeal, a sufficient amount having been subscribed to warrant at least the beginning of an edifice which would answer the requirements of the school as soon as a suitable site should be found, a matter of greater difficulty than was anticipated.

The admission of women as students in the medical department of Harvard University has more than once been brought to the attention of the corporation, who have hitherto declined to grant this privilege, chiefly on the ground of the increased expense which the innovation would entail, and which there was no means of defraying. Recently a considerable sum of money has been offered to the university for the use of the department on the condition that female students be admitted on an equal footing with those of the other sex. The amount thus tendered is not considered sufficient for the necessary outlay which must be made in order to carry this proposal into effect, but there can be hardly any doubt that enough money would be forthcoming from the friends of female medical education if it should be considered advisable to try the experiment. The matter is now in the hands of the overseers of the university, and probably some months will elapse before the question will be definitely settled. It may be asked what advantage there would be in admitting female students to the Harvard Medical School. The answer is that a considerable number of women are graduated every year at inferior schools, to the disadvantage of the profession as well as of the community. If we are to have female physicians, they should at least be well educated.

The question of the admission of women to fellowship in the Massachusetts Medical Society has already come before the councilors in previous years, who have decided against them. Should Harvard admit them to the school, and give them the degree of doctor of medicine on examination, a fresh appeal will undoubtedly be made, and, if I read aright the signs of the times, with ultimate success. The prestige of M. D. from Harvard, together with the pressure of public opinion now beginning to permeate the medical profession, would probably enable them to overcome the barriers which have hitherto opposed them,



though the number who would be able to pass the examination required for admission is at present probably limited.

How far women are likely to succeed as practitioners is a question which can only be answered hereafter. In most large cities there are a few who have deservedly achieved eminence. Perhaps the limited proportion of these may be accounted for by the difficulty of getting a good education, but I am of the opinion that the number of competent female physicians will always be small. A few gifted women will be able to maintain a high position in medicine in competition with the intellectual and physical vigor of the male sex. The majority, in my belief, will devote themselves chiefly to the obstetric art and the diseases of children among the middle and poorer classes. They will be inadequately remunerated for their toil, and in dangerous emergencies and discouraging situations will be compelled to seek the assistance of male practitioners. Yet there are multitudes of women with scanty means of subsistence who would gladly accept this lot, and we ought to be ready to aid them in obtaining such a professional training and such professional sympathy as shall make them competent to their duties, and enable them to supplant the ignorant charlatans who, under the guise of female physicians, lend themselves to the vilest criminal practices, and are a curse to the people.

The subject of public health offers many topics which are specially appropriate for an occasion like this. I can mention only a few points of much importance to the public welfare, which ought to attract the attention of Fellows of the society.

The law concerning death certificates is defective, and requires amendment in order to prevent fraud and crime. The object for which these certificates are required is twofold: first, for the purpose of preventing secret burials in cases of death from violent causes or under suspicious circumstances; secondly, to secure trustworthy statistics in relation to the prevalence, the causes, and the mortality of diseases. The General Statutes of Massachusetts require that before a body can be buried in any city or town, or be carried beyond its limits, a certificate of death must be handed to the proper authorities, signed by the physician who attended the deceased during his last illness. By a decision of the superior court the word "physician" has been determined to mean any one who pretends to treat disease as a doctor. Hence it is obvious that the authorities are obliged to receive any certificate that may be offered unless they have good reason for believing that it was issued for the purpose of concealing violence or crime, in which case they may call upon the medical examiner to investigate the case. In Boston, for instance, certificates signed by men, and also women, whose names are not to be found in the city directory, some of them obliged to make their mark because they cannot write, are re-

ceived equally with those from the most eminent practitioners, and these same certificates form part of the *reliable* statistics annually published and quoted by writers on sanitary science.<sup>1</sup>

It is thus easy to see that, until the word "physician" receives some other interpretation, the present statute in no way acts as a safeguard against the immediate burial of bodies which may have died from the effects of criminal abortion, for instance, or have in other ways been foully dealt with. The difficulties in the way of amendment are obvious. It is hard to define the word "physician" legally, since the law does not recognize as such, exclusively, what we consider to be a "regular" physician, while a certain proportion of the community look upon a class of practitioners whom we call "irregular" as of the highest authority. Since accuracy in certifying to the cause of death has no concern with the treatment of disease, would it not, in view of the great importance of correctness in the returns, be feasible for a committee composed of "regular" physicians, homœopaths, and eclectics to agree upon a legal definition which should be submitted to the legislature for approval and adoption?

The law regarding intramural interments requires modification. Burials now usually take place in cemeteries situated in outlying districts, near large cities. The result is that churchyards in the crowded parts of cities are neglected; the tombs become out of repair and often dangerous, and the ownership of many is unknown. To keep them in repair requires a constant outlay at public expense, and special police officers are needed to guard them from invasion. Of the seventeen cemeteries and burial-places under the charge of the Board of Health in Boston, five are situated in the densely populated sections of the city. Notwithstanding the unsuitableness of the localities and the general condition of the tombs, burials are still taking place. The same trouble is encountered by the local boards of health in all the large and growing cities of the commonwealth. Recognizing the necessity for some action looking towards a remedy for the evil, the legislature of 1877 passed an act by which the city council of any city could, if deemed necessary, forbid farther interments in tombs within its limits. The law, however, is strictly inoperative, since it directs a method of procedure which is impossible for the attainment of the desired relief. It provides that the board of health shall first notify the city council that

<sup>1</sup> Thus, among the causes of disease were actually returned, "Old age, duration, six hours." "Cholera infantum, age of deceased, seventy-three." "Canker humer." "Canker & spasms." "Canther of the bowels." "This certifies that A beby boy died on the born

her  
day of Febberiy, 1876;" cause of death, "Born." Signed, Mary X Riley. A girl is  
mark  
said to have died of "fright, one half hour duration." A boy is returned as "still-born; of three minutes duration." A woman, twenty-six years of age, died of "com sum som," etc., etc.



such tomb or tombs are a nuisance. After three months the city council, having first notified all the proprietors (more than half of them in Boston are unknown), must give a public hearing. If the nuisance be proved the council can pass an order forbidding farther interments, but the owners can then, within six months, go before a jury for damages. As the proprietors cannot be notified, being mostly unknown, no action under the present law can ever be taken except in regard to a few tombs, and these the very ones against which there are the least grounds of complaint. The law should be so altered that, as in the case of nuisances coming within the jurisdiction of the State Board of Health, when the board deems such action as the closure of a cemetery necessary it should have the power to do it, after a public hearing, of which due notice shall have been given in the local newspapers.

Within the last few years "private lying-in hospitals," so called, have been established in the larger cities of the commonwealth, in which women are confined at various periods of pregnancy, and the number of still-births and of deaths from peritonitis, metritis, etc., has been large. In view of the probable character of these places the legislature, in 1876, passed a law allowing the mayor and aldermen of cities and the selectmen of towns to license such persons as should be approved by the local boards of health to keep lying-in hospitals, such places to be visited as often as should be thought best by the health officers, and no other establishments were allowed to take in women to be confined. The statute, however, is virtually a dead letter, for the reason that the officers of the boards of health cannot enter a suspected house without being liable to an action for trespass, although their suspicions may rest on an advertisement in a daily newspaper.

Until recently the business of "baby farming," or taking infants to board, has been carried on to a considerable extent in Boston, and doubtless in all the large cities of the State. The numerous deaths annually returned from certain houses in this city attracted the attention of those interested in hygiene, and through their efforts the legislature in 1876 passed a law requiring all persons who took to board more than two infants under three years of age to register their names and addresses, together with the names and ages of all babies thus received, with the board of health. The officers of the board have full power to inspect and to enforce such sanitary measures as they may deem advisable. This law has, however, the same defect as that in relation to lying-in hospitals. No matter how strong the suspicion, these places cannot be visited without the examiner being liable to a prosecution for trespass. Only two persons pursuing this business are at present registered at the office of the Boston Board of Health, a fact which shows to what extent the law is enforced.

Notwithstanding the valuable reports on subjects of public hygiene

which are annually issued by the State Board of Health, I will venture to make a few suggestions on certain topics which I think are not sufficiently considered, even by medical men. One of these is the defective sanitary condition of dwelling-houses, which does so much to hinder the physical development of our people. I do not now allude to the injurious consequences resulting from the entrance of foul gas from sewers, though most of us have had experience enough of the dangers of this evil; but I would call your attention to the condition of the air in our houses as affected by the modes of warming now generally in use. On account of the economy of hot air or steam furnaces, they are universally employed, often supplanting open fires. In many cases the fire-places are even bricked up. The objections to furnaces are, first, that the warmth being applied by conduction instead of radiation the temperature of the air, which is a poor conductor, must be raised much higher than when direct radiation from an open fire is employed. The temperature of a furnace-heated room is rarely below seventy degrees F. at the height of six feet from the floor; hence the air supplied for respiration must be considerably rarefied and the proportion of its oxygen diminished. Secondly, the tendency of hot air to ascend renders the temperature of the upper strata higher than that of the lower, so that our heads are made hotter than our feet, the effect of which is seen in the drowsiness which overpowers us in a room warmed by a furnace. Thirdly, the ventilation is defective, there being no free exit for the contaminated air. Fourthly, as was pointed out by the late Dr. George Derby, poisonous gases from the coal used as fuel are apt to find their way into the rooms. As for the steam furnace, with radiators in the rooms, it is the worst possible contrivance for warming dwellings; unless used in combination with open fires there is absolutely no ventilation. Even the long-suffering American citizen can hardly endure the asphyxiation caused by this machine, which has become deservedly unpopular. I regret to see it announced that in a building recently fitted for the occupation of students in one of our oldest and best academies the rooms are heated by steam. The effects of furnace heat are chiefly seen in the sensitiveness to cold which those who are subjected to it exhibit, especially if confined much to the house. They often complain of chilliness while the thermometer indicates a temperature of over seventy degrees. Exposure to weather only moderately cold is apt to cause inflammatory and other diseases in these persons. Children who are reared in such an atmosphere become tender, and are specially subject to catarrh, bronchitis, and pneumonia from contact with the outer air. In a moral point of view the absence of the open fire is a great misfortune. There is no longer a family hearth. In cold weather the household must huddle around a "register" to seek comfort from the heated and rarefied air issuing from it, but there are none of the



delightful associations and of the attractiveness of the blaze of an open fire, which contributes so much to sociability, cheerfulness, and good feeling.

It is only of late years that the important subject of school hygiene has received among us the attention it deserves. Although we have advanced beyond the wretched sanitary arrangements of former generations, the admirable papers of Dr. Winsor and Dr. Lincoln in the reports of the State Board of Health for 1874 and 1878 show that there is yet much to be done. In some respects our school-rooms are actually inferior to those of fifty years ago, when open fires were common, owing to the cheapness of fire-wood, and the "Franklin," with its powerful radiation and its wide chimney, served not only for warming but also for ventilation, now poorly compensated by the furnace, pouring forth heated and rarefied air, sometimes mixed with noxious gases, for our children to breathe, and causing them to complain of flushing of the face, headache, and drowsiness. This effect is especially seen in our private schools for girls, most of which are in dwellings constructed without any design for such use, where from twenty to forty children occupy for several hours rooms originally intended for a single family. An open fire, if possible burning wood, or in lieu of that cannel-coal, should always be kept burning in such rooms during school hours. I am glad to say that there are some exceptions to this state of things, in Boston at least, the rooms being ventilated with open fires.

I am of the opinion that the hours of attendance, both in private and public schools, are longer than can be safely endured by most children. In cities and large towns it is becoming common to have a single session lasting five hours. Dr. Reynolds has pointed out the evils of this system. Both mind and body are wearied by the confinement and close application for so many hours, and the short intermission is insufficient for relaxation. Children cannot safely go so long a time without proper food, the lunches which they take with them being often unwholesome and eaten with haste. The old plan of morning and afternoon school, with time enough between them for the children to go home and dine as well as play, was a salutary arrangement. The long summer vacation which the pupils of most schools in cities and large towns enjoy is an evil of considerable magnitude. Nearly one fourth of the year is thus disposed of, and but few other holidays can be afforded. I do not complain so much of the amount of vacation as that it should be unequally distributed. More frequent recesses, of from one to two weeks each, made at the expense of the summer vacation, would prevent the injurious effects of too incessant labor; but the modern customs of society, exacting an exodus from home early in summer, would seem to render this impossible.

The excessive mental stimulation and overwork without sufficient re-

laxation shows itself in what is sometimes called "nervous asthenia," a condition seen in adolescents and young adults, especially females, which threatens to undermine seriously the health of future generations. Another result of the neglect of the laws of hygiene is the formidable danger to the eyesight incurred by our school children. The subject has been brought before the profession and the public with much earnestness by Professor Williams, Dr. Derby, Dr. Jeffries, and others, who have called attention to the alarming increase of near-sightedness among school children and students in academies and colleges.<sup>1</sup> As the disease is progressive, and in some cases leads to structural disorder and total loss of sight, it becomes important that physicians should warn teachers and parents of the danger in season to prevent the evil which cannot be cured when it has once become established. Studies out of school should be brief, if allowed at all, and no evening work should be permitted which causes fatigue to the eyes. The pupil's desk and the direction of the light should be arranged with special reference to preventing congestion of the eyes and fatigue of the muscles of accommodation.

I may venture to hint that even in this enlightened day some improvement is still needed in our methods of dealing with disease. We are too much given to routine practice; too prone to treat the disease rather than the patient; too forgetful of the great doctrine of the self-limitation of disease, promulgated by the venerable Dr. Bigelow. New remedies are from time to time discovered, some of them of undoubted utility, such as salicylic acid, carbolic acid, chloral, jaborandi, and others; but the number of these is not large, and in proportion as our acquaintance with the natural course of a disease increases, our belief in the specific effects of drugs should diminish. Yet we are still apt to regard the sudden amendment in pneumonia, which in uncomplicated cases is the natural course of that malady, as the result of some specific remedy or mode of treatment. To test the value of a drug requires much patience, close observation, and a mind able to discriminate between effect and mere sequence. Inaccuracy of observation and hasty generalization have done much to retard the progress of therapeutics. There is an instinctive desire to try the effect of something new, and we are apt to be misled by the enthusiasm of experimenters. Samples of drugs which interested spectators hope to push into the market are distributed broadcast to physicians. Instead of a dispenser of medicines, the "pharmacist," as he is now styled, has become a dealer in

<sup>1</sup> See *Near-Sightedness and School-Houses*, by B. Joy Jeffries, M. D., *Boston Medical and Surgical Journal*, May 14, 1874. *Serious Pathological Changes in Myopic Eyes*, by H. W. Williams, M. D., *ibid.*, October 29, 1874. *The Origin and Causes of Near-Sightedness, etc.*, by the same, *ibid.*, December 21, 1876. *A Report on the Percentage of Near-Sight found to exist in the Class of 1880 at Harvard College, with some Account of Similar Investigations*, by Hasket Derby, M. D., *ibid.*, March 22, 1877.



fancy preparations, in most of which the only article of value is in too small proportion to be efficient. Some scores of preparations of a drug are offered to us, while all its virtues can be obtained from two or three. What advantage does an "elixir of wine, beef, and iron" possess over any simple form of iron, with alcoholic stimulants and beef tea at discretion? A physician of large experience and sound judgment generally employs but few remedies, and those in simple combinations. While he is ready to adopt new ones which are recommended by good authority, he does so with due caution and with a conscientious regard to the welfare of his patient.

Medical periodical literature is an important topic of consideration in any general survey of the profession. So rapid is the growth of medical science that the old-fashioned quarterlies are unable to supply us fast enough with the discoveries and improvements which are constantly made, and have given place to monthlies, bi-weeklies, and weeklies. A noted feature in most journals is a department devoted to the most "recent advances" in the different branches of medicine. No physician can do justice to his patients who is not a reader of medical journals; he must otherwise soon fall short of the average knowledge of practitioners. In order that a journal should succeed it must receive the support of the profession. Few are aware of the expense and labor necessary to maintain a medical periodical, or the small amount of profit derived from it. For the editors and collaborators it is really so much out of pocket in return for the valuable amount of time they devote to it. This society is under great obligations to an association of Fellows who undertook the risk of purchasing the Boston Medical and Surgical Journal, in order to raise it to a higher grade of usefulness by supplying the profession with a record of scientific progress and with original and practical articles on medical subjects, and it is not an unreasonable demand that every Fellow of the society should, by subscribing to it, contribute to its support.

Before closing these desultory remarks I desire to call the attention of the profession to the subject of provision for those of our brethren who by reason of sickness, age, or other inability are deprived of the means of support, as well as for the widows and children of medical men who are left more or less destitute. It is notorious that physicians seldom make more than a living from their calling. A few specialists have large incomes, but this is not the case with the rank and file. As a rule, we cannot begin to lay up anything before we have passed the meridian of life, when the increasing amount of labor, with diminished strength, renders the tenure of the remaining portion precarious. There is no profession in which so much gratuitous work is done as in ours. Besides the services rendered in dispensary and hospital practice, which are to some extent recompensed by the opportunities they

afford for study and experience, a large amount of professional advice and labor is freely bestowed upon patients of a better class who can pay little or nothing for it. Hence medical men and their families who through misfortune are deprived of the means of support should especially become the objects of benevolence. The Massachusetts Medical Benevolent Society was established more than twenty years ago for the purpose of aiding those of our profession and their families who are in need of pecuniary assistance. I regret to say that it has not as yet attracted as much notice from the benevolent as it deserves. Its funds are barely sufficient to pay to a few beneficiaries the sum of sixty dollars each, yearly, with an occasional extra amount in urgent cases. Small as this relief is, it is thankfully accepted by those who are able to obtain it. Any addition to the permanent fund of this society would extend its usefulness by relieving a most worthy class of sufferers.

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## THE METRIC SYSTEM IN A NUTSHELL.

BY EDWARD WIGGLESWORTH, M. D.

"Universality, Uniformity, Precision, Significance, Brevity, and Completeness." "A system of weights and measures born of philosophy rather than of chance." — CHARLES SUMNER.

SURGEON-GENERAL WOODWORTH, of the United States Marine Hospital service, has issued a circular, with the approval of Secretary Sherman, requiring medical officers of the Marine Hospital service to make use hereafter, for all official, medical, and pharmaceutical purposes, of the metric system of weights and measures, which had previously, under the act of July 28, 1866, been adopted by this service for the purveying of medical supplies.<sup>1</sup>

The metric system is already *legalized* in both America and England. The only question now is, Which of the two, the most progressive or the most conservative nation on earth, shall be the first definitely and finally to adopt it as an exclusive system? (N. B. England was four hundred years behind the Continent in adopting our present arithmetic.) Russia has already taken the preliminary steps towards its final introduction. The rest of the civilized world long since made the system obligatory, in whole or in part, except Sweden alone, where its obligatory use is to date from a period in the future, — 1889.

Now what is this metric system?

Metric is from the Greek word *metron*, a measure, spelled with *epsilon*, *e* short, and therefore pronounced mēt-ric.

The meter (measure) is practically a fixed quantity, namely, the ten millionth part of the earth's quadrant from the equator to the north pole. With the meter everything can be measured, for it is itself the unit of length; a cube, the edge of which is the tenth of a meter, is the unit

<sup>1</sup> JOURNAL, May 16, 1878, page 646.



of capacity (liter) ; and the weight of a cube of rain-water at its extreme contraction, the edge of which cube is a hundredth of a meter, is the unit of weight (gram).

It is the gram alone which concerns physicians, for in the metric system *everything is best prescribed and dispensed by weight alone* ; numbers upon a prescription paper being regarded by the pharmacist as representing grams, unless the contrary is expressly stated. The fractions are always decimal.

The table is easily learned. It consists of six words as prefixes, whether we deal with grams, liters, or meters. These are : deci- for tenth, centi- for hundredth, milli- for thousandth ; deka- for ten, hekto- for hundred, kilo- for thousand. Having these few words, the terms of troy, avoirdupois, and apothecaries' weight, and of liquid measures, may be relegated to the limbo of pounds sterling, shillings, fourpence-ha'pennies, and farthings. As we say dime, cent, mill, so we say decigram, centigram, milligram. These prefixes are Latin, and *diminish* the value. Deko-, hekto-, and kilo- are Greek, and *increase* the value. The mnemonic is GILD, that is, Greek Increases, Latin Decreases. Deko occurs in the English word decade, hekto in hecatomb, kilo in chiliad.

“ Being accustomed to the words mill, cent, and dime, we shall find the words ‘ milligram,’ ‘ centigram,’ and ‘ decigram ’ quite as simple and easy to pronounce as our words ‘ pennyweight troy,’ ‘ hundredweight avoirdupois,’ ‘ scruple apothecaries,’ etc., notwithstanding the assertion to the contrary of those who grieve to give up the ‘ short and sharp Anglo-Saxon words used in our present *familiar* old tables ’ of weights and measures.”

Practically, moreover, for physicians the whole system is reduced to grams and centigrams, just as in money to dollars and cents. On the right side of the prescription paper draw a perpendicular line from top to bottom. This decimal *line* takes the place of all the decimal *points*, and obviates the possibility of mistakes. This is the way dollars and cents are separated on business papers. Additional security is gained by writing the decimal fraction (centigrams) of half size and raised above the line (of grams), since it represents a numerator of which the denominator — 100 — is omitted. This too is a plan which is in vogue in State Street. To make assurance doubly sure, “ grams ” may also be written over the integer column of figures, and, if wished, the word “ decimals ” over the decimal column.

Now what is a gram ? or rather, what are the values, metrically expressed, of our present awkward weights ?

	Prussian.	Practical.	Precise.
Grain i. =	0.06	0.06.	0.065
ʒi. =	1.25	1.25	1.29
ʒi. =	3.75	4.0	3.89
ʒi. =	30.0	32.0	31.1

The "practical" table alone concerns us. The "Prussian" (by order of the Prussian ministry, August 29, 1867) is given merely to show that our table is even nearer the actual truth than one which has been proved by actual experience to answer every purpose. The values of the grain and scruple are a little too small. As they are used for powerful drugs this is an error in the right direction. The values of the drachm and ounce are a trifle too large, but the proportions are retained; therefore the ratio of drug to vehicle is also adhered to.

A prescription written metrically is always proportionate, and whether the pharmacist uses pennyweights, pounds, or tons; gills, pecks, or chaldrons; pints, gallons, or hogsheads, the ratios are preserved, and a teaspoonful dose contains the same amount of medicine.

As regards administration; a teaspoonful represents five grams, a tablespoonful twenty grams; for a teaspoon holds one and one third fluid drachms, a tablespoon a trifle more than four times as much.

In the metric system *everything is weighed*, thus obviating the difficulties of evaporation, refraction, and adhesion, and obtaining, more conveniently, more exact results. In our old "systemless system" some fluids were measured. How shall we obtain with weights the desired bulk of fluids with varying weights? Must we learn the weights (specific gravities) of all fluids?

*Not at all!*

(1.) Fixed oils, honey, liquid acids, and chloroform must at present be prescribed in our old weights, not measures, according to the Pharmacopœia. Here change old weights to metric ones.

(2.) Not enough chloroform or ether is included in any one prescription to admit of harm arising from the amount contained in a single dose, even were their weights regarded as the same with that of water. Moreover, it is not difficult to remember that ether weighs seven tenths as much as water, chloroform twice as much as ether.

(3.) There remain infusions and tinctures, glycerines and syrups. These four are used in bulk as doses, or as solvents or vehicles. The two former may be regarded as identical in weight with water; the two latter as one third heavier, and when prescribing these we need merely write, by weight, for four thirds as much as we should write for were we prescribing water, and we obtain an equal bulk. The teaspoon or tablespoon dose will then contain the desired amount of the drugs employed.

Or, simplest of all, we can make any mixture up to any desired bulk by merely directing the druggist to use enough of the vehicle to bring the whole mixture up to the requisite weight for that bulk.

The Metric Bureau, 32 Hawley Street, will furnish metric prescription blanks to order, to druggists or physicians, at four fifths the printer's rates.



Old Style.

Metric.

	Gms.	
m i. or gr. i. equals . . . . .	32	06
f 3 i. or 3 i. equals . . . . .	4	
f 3 i. or 3 i. equals . . . . .	32	

N. B. The decimal *line*, instead of *points*, makes errors impossible. C. C. used for gms. causes an error of five per cent. (excess). A teaspoon is five grams; a tablespoon, twenty grams.

## RECENT PROGRESS IN DERMATOLOGY.

BY JAMES C. WHITE, M. D.

*The Proportion of Red Corpuscles in the Blood in Skin Diseases.* — Dr. Thin read a paper<sup>1</sup> before the Royal Medical and Chirurgical Society, in which he gave the results of investigations he had made into the condition of the blood in certain affections of the skin. The red corpuscles were counted after the method introduced by Malassez in several cases of psoriasis, in eczemas, and in pemphigus, acne, and prurigo, patients being chosen in whom there was no reason to believe that the condition of the blood was affected by treatment or the existence of other maladies. It was shown that in none of these diseases was there any noticeable diminution of the corpuscles. Dr. Thin stated that it was too much the fashion to assume a profound blood condition in diseases of the skin without any grounds for the assumption, and his observations only showed that in one respect at least the blood was not modified.

*Malaria in Dermatology.* — Dr. Yandell, of Louisville, publishes<sup>2</sup> in connection with his paper, *Malaria and Struma in their Relation to the Ætiology of Skin Diseases*, read before the American Dermatological Association, additional remarks in reply to the criticisms made by members at that time. He reiterates the theory already briefly noticed in these reports: that “malaria is the chief source of acute skin disease,” and that “scrofula is the chief source of chronic skin disease.” When he has answered the questions there proposed<sup>3</sup> we shall be able better to determine what relations skin diseases in general bear to malaria, but at present none have been demonstrated. With regard to his statement that malaria does exist in Boston in spite of the negative testimony offered by resident physicians, our readers can judge. Dr. Yandell would not so restrict the influence of malaria, for “what is true of dermatology,” he says, “is equally true of gynæcology and ophthalmology and otology, and it is just as true of the diseases of all the other regions of the body.”

*The Pathology of Seborrhæa.* — Dr. Van Harlingen, of Philadel-

<sup>1</sup> The Medical Press, January 30, 1878.

<sup>2</sup> American Practitioner, January, 1878.

<sup>3</sup> See JOURNAL, December 7, 1876.

phia, made a communication, the second on this subject, to the American Dermatological Association, in which <sup>1</sup> he presents the results derived from his observations in the following form: (1.) The sebaceous secretion is derived from the fatty metamorphosis of the enchyma cells of the sebaceous glands. These cells are homologous with those of the stratum mucosum of the skin. They have nothing in common with the cells of the horny layer. (2.) Seborrhœa is a disease of the sebaceous glands, characterized by the pouring out of an increased quantity of sebum, more or less altered in chemical and physical composition. In comedo and seborrhœa sicca, properly so called, the secretion is condensed to a fatty consistency, while in seborrhœa oleosa it remains in an oily state. In each of these affections, however, microscopic examination shows epithelial cells in a state of more or less complete fatty degeneration, and breaking down into granular *débris*. Horny cells are found only adventitiously. (3.) Certain forms of disease, heretofore commonly classed as seborrhœa sicca, should properly be removed from the category of diseases of the sebaceous glands, since the pathological product in these cases is not sebum, but epithelium from the horny layer of the skin. Any sebum which may be present is a mere accompaniment of the epithelial product. For these cases the designation pityriasis or pityriasis simplex would seem appropriate.

*Molluscum Contagiosum*. — Dr. Fox, of New York, publishes <sup>2</sup> a very interesting clinical study of this affection, based upon observation of twenty-five cases, an unusually large number to have fallen under the notice of any single observer within a short period. In eighteen of the cases the growths were situated mostly upon the face, and exhibited a tendency to congregate about the eyes and mouth. The chin and neck were more frequently affected than the cheeks or forehead. They were also noticed upon the ears, scalp, and tip of the nose. In one instance the distribution was quite general over the surface of the body. Dr. Fox believes that the disease is much more common among the poorer classes of society than among the wealthy, and his statistics show that it occurs much more frequently in children than among adults. In the eighteen cases above referred to five were infants, eight between the ages of three and ten, and five were older. As to sex, fourteen were females. In the remaining seven cases the growths occurred solely upon the genitals of male adults — growths which he regards as identical with those situated elsewhere. The attention of Dr. Fox was attracted to the frequent coexistence of warts with mollusca in his patients, and subsequent observation led him to the conclusion that such occurrence was too frequent to be accidental. (He finds that in one

<sup>1</sup> Archives of Dermatology, April, 1878.

<sup>2</sup> Chicago Medical Journal and Examiner, May, 1878. Read before the Niagara meeting of the American Dermatological Association.



hundred boys and one hundred girls examined in the children's clinic of the New York Dispensary twenty-one boys and nine girls, or fifteen per cent., had warts; that in an examination of two hundred adult males in the venereal department twenty-three per cent. were more or less affected.) This question of the coincident occurrence of verrucæ and mollusca is an interesting one, but the ætiology of both is equally blind. As to the contagiousness of the latter Dr. Fox feels warranted in saying that like warts "they appear sometimes to be contagious." In one of his cases several attempts at inoculation were made upon himself and upon the patient by rubbing the expressed contents of the tumors upon the scarified and sound surfaces of the skin, but they were unsuccessful.

*Treatment of Rhus Poisoning.* — Dr. Brown, United States navy, of Mare Island, Cal., believes<sup>1</sup> that he has discovered in bromine a "specific" cure for the cutaneous inflammation produced by contact with the volatile poison of this family of plants. He states that he has used the remedy in forty cases with the same unvarying success; that the eruption never extends after the first thorough application and promptly begins to diminish, the patient being entirely cured in twenty-four hours if the application be persisted in. He uses the bromine dissolved in olive oil or cosmoline, ten or twenty drops to the ounce, rubbing it gently upon the affected parts three or four times a day, and washing off the oil twice a day with soap. There is no pain attending its use. The bromine is so volatile that it is necessary to prepare the mixture afresh every day. A fair definition of the common phrase "newly discovered specific remedy" would be "something soon forgotten," and the brief reputation of such remedies is generally based upon their supposed action in affections which, like rhus poisoning, are mainly self-limited in their course. California, however, offers abundant opportunity for testing the merit of remedies in this disease, and the position of Dr. Brown warrants a fair trial of his discovery.

*Eruption after Cannabis Indica.* — Dr. Hyde, of Chicago, reports<sup>2</sup> an interesting case of universally disseminated vesicular efflorescence appearing the morning after an evening dose of one grain of this drug. The vesicles varied in size from a pin point to a small split pea. It was accompanied by very slight itching, and by no marked dermatitis. The eruption subsided in a few days without bursting, leaving a light desquamative crust of yellowish-red hue.

*Impetigo Herpetiformis; its Relations to Pemphigus.* — Under this title Hebra has described an affection which he has seen in five cases only, and the striking appearances of which he has figured in a late number of his great Atlas. Dr. Heitzmann, the artist of a large por-

<sup>1</sup> New York Medical Record, April 20, 1878.

<sup>2</sup> Medical Record, May 11, 1878.

tion of these magnificent portraits of disease, now of New York city, adds the history of an additional case,<sup>1</sup> read at the recent meeting of the American Dermatological Society, which presents, in his opinion, points of interest in the following respects: First, all the cases under Hebra's care occurred in pregnant women; his was first observed during the climacteric years, independent of any disease of the genital organs. Second, the diagnosis impetigo herpetiformis was fully legitimate for the first ten weeks of the disease, as the characteristic groups and circles of pustules could be watched, together with the formation of central excoriations and peripheral new formation of pustules. Third, there was a formation of analogous eruptions on the mucous membrane of the mouth, but which did not differ in appearance from those due to pemphigus. Fourth, the efflorescence later changed its character into that of pemphigus; all the symptoms of the former turning into those of the latter on the skin only, while the eruptions in the mouth diminished with the appearance of the pemphigus-blebs on the body. During the last three months of life no eruptions formed in the mouth at all. Fifth, the cause of neither pemphigus nor impetigo herpetiformis has, Dr. Heitzmann states, ever been elucidated; but his case gives evidence, in his opinion, that both diseases arise from analogous if not identical causes, so that they may be considered kindred to each other.

*Treatment of Psoriasis by Chrysophanic Acid.* — Squire publishes in a pamphlet<sup>2</sup> the results of his experiments with this substance, together with many of the articles which have appeared in the London medical journals upon the subject during the past year. The action of goa powder as a parasiticide has long been known, its well-deserved reputation extending from South America to India, and later to England and this country. It is the powdered pith of a Brazilian leguminous tree, and analysis and experiment show its active principle to be chrysophanic acid. Its accidental use in a case of psoriasis led to the full investigation of its action upon the disease by the author, and to the introduction of an additional remedy in the treatment of this obstinate affection which promises to be of great value. If its power against it were even as great as against ringworm, its action in the former would be far more valuable than in the latter affection, because we already have an abundance of parasiticides, but it appears to be even more effective. The great obstacle to extended study of its action with us has been the very limited supply, wholly inadequate to meet the usual demand for all new remedies, in spite of the exorbitant price asked for the stock on hand in this country. Chrysophanic acid, costing a year ago ten shillings an ounce in London, is now quoted by

<sup>1</sup> American Archives of Dermatology, January, 1878.

<sup>2</sup> London. J. & A. Churchill. 1878.



Squire at three shillings eight pence, and goa powder can be had for even a less sum. The acid is soluble in hot benzole, and is readily taken up by hot lard also, so that it is easily made into an ointment by digesting over a water bath in the lard and subsequently stirring with a pestle in a mortar until cold. The goa powder may be treated in the same way, and, although not as elegant a preparation, will be found nearly as effective. Chrysophanic acid is at times a very active irritant to the skin, so that its use should be guarded in the beginning. From one to two drachms to the ounce will ordinarily be borne by the skin, but as the healthy skin is much more susceptible to its irritant action than the diseased patches, the strength of the preparation must be governed by the reaction of the normal tissues. Indeed, one of the most striking characteristics of its action is the deadened or inactive appearance of the efflorescence by contrast with the dark purplish hue which the surrounding surface assumes under the dyeing influence of the acid. When in addition to such staining the cutaneous tissues are stimulated into the fiery redness of dermatitis under its action, which is not unfrequently the case at first, the pallid look of the original eruption is still more conspicuous. This dyeing property is one of the obstacles to its use, for not only does it stain the healthy skin, but the clothing also which comes in contact with it, so that old underclothing must be worn while applying it. It will therefore be found impracticable to use it upon parts exposed to view, including the scalp, as the hair as well as the epidermis is stained by it. The rapidity with which the efflorescence in some cases of psoriasis, even those of long standing, disappears under its daily use is surprising, surpassing in this respect the most active agents ever employed locally in its treatment. In a few cases, on the other hand, it seems to be as inactive as do all remedies at times in this incomprehensible disease, so that it has not the merit of infallibility. What relation it is to bear to other remedies in point of surety of action, however, remains to be determined by more extended observation. There is, of course, no ground for assuming that its curative action will be more permanent in effect than that of other "cures."

It may be best employed by rubbing the affected parts with a flannel swab on the end of a stick smeared with the ointment at night, beginning with the strength of a drachm to the ounce gently applied. If no excessive reaction in the surrounding skin is excited, it may be rubbed in more vigorously, be used of greater strength, and applied even twice a day. Should any part become greatly inflamed, its use should be suspended for a few days, or its application may be by night only, while some soothing treatment may be employed locally by day to counteract such overactivity. These manifestations, often causing great alarm to the patient by their threatening, fiery appearance, generally subside with rapidity. In addition to the erythema, œdema, and papular efflo-

rescence ordinarily produced, Squire notes the occurrence of a furunculoid eruption in a few instances. Besides its well-known action as a parasiticide in *tinea trichophytina*, it seems to possess the same destructive power over *tinea versicolor* and *tinea favosa*, but in all vegetable parasitic affections of the hairy parts its action is as slow as that of other antiparasitic remedies. Accounts are given in the appendix of its effective use in certain figurate forms of chronic eczema, in lichen planus, and in *acne juvenilis* and *rosacea*. Few patients could be found, however, who would permit it to be used upon the face.

Applied over large surfaces of the skin, chrysophanic acid produces no constitutional effects, but taken internally in excess it is found to be an emetic purge with the power of evacuating large quantities of bile. From six to ten grains may be taken, however, with but slight action upon the intestinal canal.

Professor Neumann, of Vienna, formulates the results of his use of chrysophanic acid in the following conclusions: <sup>1</sup> The acid obtained from goa powder is an excellent remedy for the cure of *tinea tonsurans*, *tinea versicolor*, and psoriasis. The early forms of the latter disappear after a few applications only, and do so more quickly and in a far simpler way than under any other hitherto known remedy for the disease. Inveterate forms of the affection also are capable of being subdued by chrysophanic acid, and offer long resistance to it only in exceptional instances. It produces no pain in the affected parts. By its means psoriasis has been removed from the list of affections which torment patients to an excessive degree, and its relapses are easily controlled. In *tinea versicolor* three rubbings with the ointment, in *tinea circinata* from six to eight, are generally sufficient for a cure. Few remedies have been introduced into the therapeutics of skin diseases during late years which have been crowned with such eminent success.

(To be concluded.)

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## THE ASSOCIATION OF AMERICAN MEDICAL COLLEGES.

THIS association was organized last year at Chicago, and holds its meetings annually on the day previous to the meeting of the American Medical Association. Its objects are the advancement of medical education, the establishment of friendly relations, and a common policy in the management of the leading American colleges. Twenty-five colleges have become members regularly, and one has become an affiliated member. A circular was sent last year to all the regular medical colleges in the United States, asking if they had conformed to the articles of confederation.

Professor Biddle, as chief officer of the association, presided at this meeting, which was held June 3, 1878, at the Buffalo Medical College. There were

<sup>1</sup> Separatabdruck aus der Wiener med. Presse.



representatives in attendance from the Rush Medical College, Jefferson, University of Louisville, University of Nashville and Vanderbilt, University of Iowa, Michigan University, Detroit Medical College, Chicago, Miami, Starling, Louisville, Missouri, Bellevue, Cleveland, and Kansas City College of Physicians and Surgeons. Harvard and the University of Pennsylvania notified the association that they regarded it as unadvisable for them to enter at present. Objection being made to the reception of the Howard University of the District of Columbia, that institution was refused admission. Letters containing suggestions to amend the articles of confederation and by-laws were received from the Bellevue College and the College of Physicians and Surgeons of New York City (medical department of Columbia University); these amendments, under the rule, will be acted upon at the next meeting.

Professor Gross spoke at some length, and offered a series of resolutions calling for a conference of all the medical colleges in the United States to discuss a plan for the elevation of the standard of medical education, and to establish more uniformity in the qualifications for the degree of doctor of medicine. He suggested that the meeting be held during September next, in Washington. Remarks were made by Professors N. S. Davis, Gunn, and others, favoring a longer term of study and a graded course. The resolution was adopted, the time of meeting chosen being the Friday previous to the next meeting of the American Medical Association, and at the same place, Atlanta.

Professor Flint recommended that the tickets and diploma of the Nashville Medical College be not recognized by the members of this association as long as that institution shall continue to give two graduating courses in one year, and accept three years' practice in lieu of a course of lectures.

The following officers were elected for the ensuing year: President, J. B. Biddle, M. D.; vice-president, N. S. Davis, M. D.; secretary and treasurer, Laertes Connor, M. D.

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### THE ASSOCIATION OF MEDICAL EDITORS.

THE annual meeting was held at the Tifft House on Monday evening, June 3, 1878, presided over by Dr. John P. Gray, editor of the *American Journal of Insanity*, who read a very valuable paper, comparing the laws of England and those of the State of New York. In referring to the manner of commitment of the insane to asylums, and the regulations concerning their care, detention, and discharge, he stated that they were essentially the same, and that the chief responsibility must always rest upon the medical profession. Remarks were made by Drs. Davis, Pratt, and White, in which attention was called to the defects in the insanity laws in many of the States, and a protest was made against the system of jury examinations for the determination of insanity.

The following officers were elected for next year: William Brodie, M. D., president; J. F. Mener, M. D., vice-president; F. H. Davis, M. D., secretary.

## THE NATIONAL LARYNGOLOGICAL ASSOCIATION.

A NUMBER of specialists in throat affections met by invitation on June 3d, and formed a National Laryngological Association. The first annual meeting will be held in the city of New York, the second Tuesday in June, 1879. The officers are: President, Dr. Louis Elsberg, of New York; vice-president, Dr. F. H. Davis, Chicago; secretary and treasurer, Dr. George M. Lefferts, New York; Council, Drs. Clinton Wagner, New York, William C. Glasgow, St. Louis, E. L. Shurley, Detroit, J. H. Hartman, Baltimore.

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## TWENTY-NINTH ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

THE twenty-ninth annual meeting of the American Medical Association was convened in the city of Buffalo, New York, Tuesday, June 4, 1878, and remained in session four days. The attendance of delegates, permanent members, and members by invitation was large; the meetings and discussions were interesting, and happily were not marred by any occurrence tending to disturb the general harmony and good feeling. The entire number of delegates registered was 549, and good attendance was observed in all the sections with one exception, the Section on Medical Jurisprudence, Chemistry, and Psychology. The weather was clear and cool, and well adapted to enhance the pleasure of the visit and the enjoyment of the hospitalities of the citizens. Receptions were given by the members of the Buffalo Social Club, the Academy of Fine Arts, and the Academy of Natural Sciences. A *fête champêtre* was given by B. C. Rumsey, Esq., followed by a reception by Professor James P. White, on Thursday evening. The following afternoon there was a general excursion on the Canada Southern Railroad to Niagara Falls, with a supper at the International Hotel. Great credit is accorded to the committee of arrangements and that on entertainments for their care and foresight, and the ability and taste displayed in the management of the details of the session. General satisfaction and pleasure were experienced.

TUESDAY, June 4th. A large number of delegates, among whom were several ladies, were present at the opening of the meeting in St. James's Hall. The association was called to order by the president, Dr. T. G. Richardson, of Louisiana, and the proceedings began with prayer by the Rev. L. Van Bokkelen, D. D., of Trinity Church.

Professors Gross, Bowditch, N. S. Davis, Dr. J. M. Toner, and others, ex-presidents of the association, were invited to take seats on the stage, after which an address of welcome was read by Dr. Thos. F. Rochester, chairman of the committee of arrangements.

The thoughtful and suggestive address of the president, Dr. T. G. Richardson, attracted marked attention. After referring to the usefulness of the association of professional men from all sections for an expression and interchange of opinion, and the influence they were capable of wielding in their collective capacity, he referred in terms of gratification to the recent evidences of a gen-



eral desire in the profession for an elevation of the standard of medical education, and noticed the action of Harvard Medical School, the Chicago Medical College, and more recently of the University of Pennsylvania, in lengthening the term of study and adopting a graded course, as one of the most encouraging indications of the growth of a healthy popular sentiment. This reformation he believed to be due to the growth of professional interest in the subject, and to a better general appreciation of the relationship and responsibility of the medical colleges to the profession. This revolution which is taking place in the minds of medical teachers is almost entirely due to the public professional opinion which has been originated by the frequent discussions before this body. In order to increase this influence a more thorough organization of the state, county, and district societies, by which the sixty thousand physicians of the United States may be brought into vital connection with the American Medical Association, is eminently desirable, and a plan to further this end deserves immediate consideration.

In order to stimulate original investigation the president urged that the association should offer annual prizes of not less than two hundred and fifty dollars each for strictly original contributions to medical or surgical progress. He referred to the labors of the members in behalf of state medicine since ten years ago. At that time not a single state health association existed; now there are twenty of them organized and working. He declared that the scope of state medicine, in brief, may be considered as including public hygiene, medical education and medical jurisprudence, and the control and sustentation of public institutions for the sick and infirm. With such an extended field, it is remarkable that the preparation of medical officers for this work is almost totally neglected by our institutions of learning, in view of the fact that such deplorable ignorance prevails in the community in regard to sanitary law. Since the hope of progress in state medicine lies in the education of the people, it was recommended to publish an address showing the importance of the subject, copies of which should be sent to the state medical societies for distribution. The establishment by the national Congress of a national council of health was strongly advocated, whose chief officer should be a member of the Cabinet of the United States. Dr. Richardson also recommended that the state medical societies continue their endeavors to establish boards of health; and, finally, that the American Medical Association should be incorporated.

Upon motion of Professor Gross, a committee, consisting of the president and four of his immediate predecessors, was appointed to consider the recommendations contained in the address in reference to medical education, prize essays, state medicine, and hygiene.

Reports were received from Dr. Wm. Brodie, delegate to the last meeting of the Canada Medical Association, Dr. Sayre, delegate to the British Medical Association, and Drs. Marion Sims, Thomas Drysdale, and Edward Seguin, delegates to the International Medical Congress at Vienna, the latter urging the general adoption of the metric system and a universal pharmacopœia.

WEDNESDAY, June 5th. The Judicial Council presented a report dismissing certain charges made against delegates. It was decided in reference to the Hot Springs and Garland County Medical Society that a county

society loses its recognition by its severance from the state society. In regard to the charges against a delegate from the Michigan State Medical Society, that he was engaged in the instruction of homœopathic specialists, it was found that no ordinance was in existence in the Code of Ethics to prevent a delegate from aiding the graduation of students devoted to an exclusive dogma in medicine. Considerable discussion followed this report, and before any action could be taken the hour for the next business had arrived, and its consideration was postponed.

Prof. Henry H. Smith, chairman of the Section of Surgery and Anatomy, delivered the annual address on surgery, taking for his topic Certain Points in the Pathology of the Bones, in which he discussed the function of the medulla of the long bones, in the crisis of the blood and the genesis of the red blood corpuscle, and the relation of the same structure to diseases of the blood, especially to tubercle. The address attracted marked attention, and supported the view of the tubercular nature of Pott's disease and morbus coxarius.

Dr. Frank H. Hamilton, of New York, presented, at the request of the section on State Medicine and Public Hygiene, an abstract of a paper read before that section the previous day by Dr. E. Seguin, of New York, on the Intervention of Physicians in Education, which dwelt upon the present neglect of hygienic law in the management of school-children, and recommended that physicians should take a more active part in the control of school exercises and discipline. The ignorance of sanitary science displayed in the building and ventilation of school-houses was particularly dwelt upon. The following resolution, offered by Dr. Hamilton, was unanimously adopted:—

*Resolved*, That in the opinion of this association medical men ought to have a voice in the construction and location of public-school buildings; in the question as to the age at which children should be admitted, the hours of study, and the general management of these institutions. And to this end it is believed to be necessary that one or more intelligent physicians should be placed upon boards of education, boards of trustees, and upon other similar boards having the control of public education and schools.

The association next listened to the address on Obstetrics, by Dr. E. W. Jenks, of Detroit, in which he reviewed the many and varied causes of sudden death occurring in the puerperal state.

The following resolution was offered by Dr. Bronson, of Massachusetts:—

*Whereas*, By the report of the Judicial Council submitted this day, we are informed that the ethical code of this association is imperfect in that it does not recognize by its letter a conceded violation of the spirit of our profession in its relation to irregular medicine; therefore,

*Resolved*, That said council be instructed to submit to this association at their next meeting for its consideration an amendment to the code covering this omission.

It was on motion referred to the Judicial Council as a committee for further consideration, to report at the next meeting.

THURSDAY, June 6th. In the matter of the Washtenaw County Medical Society the Judicial Council decided that the Medical and Surgical Society of Ann Arbor, Michigan, was entitled to two delegates.



Dr. A. N. Bell, of Garden City, offered a resolution recommending that in consequence of the want of material for consideration before the Section on Medical Jurisprudence, Chemistry, and Psychology it be merged into that on State Medicine and Public Hygiene, and consolidated into one section, to be known as Section IV. This, being an amendment, was laid over, under the rule, until the next annual session.

Dr. N. S. Davis, of the Judicial Council, presented the following, which was also laid over:—

In obedience to the instructions of this association, the Judicial Council, acting in the capacity of a committee, have unanimously instructed me to report to your honorable body the following amendment and addition to paragraph 1, Article I., of the second division of the Code of Ethics, under the general heading, Of the Duties of Physicians to each other, and to the Profession at Large, and the special heading, Duties for the Support of Professional Characters; the same, when finally adopted, to be added at the end, and to constitute a part of said paragraph 1, of Article I. The proposed addition is in these words: “And hence, it is considered derogatory to the interests of the public and the honor of the profession for any physician or teacher to aid, in any way, the medical teaching or graduation of persons, knowing them to be supporters and intended practitioners of some irregular and exclusive system of medicine.”

The annual report of the committee on necrology was presented by the chairman, Dr. J. M. Toner, of Washington, D. C. It included sketches of seventy-five physicians who had died since the annual meeting of 1877. Without being read the report was presented to the committee on publication.

The committee on Catalogue of National Library, not being ready to report, was continued.

Dr. A. L. Loomis, of New York, chairman of the Section on Practical Medicine, Materia Medica, and Physiology, was then introduced, and made a very able address, in which, among other topics, he considered the varieties of phthisis pulmonalis, catarrhal, fibrous, and tubercular, and reviewed the indications for the treatment, recommending the establishment of sanatoria for consumptives. It was on motion referred to the section for discussion.

Dr. James P. White offered the following, which was adopted:—

*Resolved*, That a committee of five be appointed to confer with General Myer upon the subject of making observations as to the existence of ozone in various localities, and to take such other steps and measures in the matter as may be necessary for the success of the object.

Dr. Huff, of West Virginia, read the following report of the committee on nominations, which, on motion of Dr. White, was unanimously adopted:—

After due consideration the committee on nominations respectfully report that they have nominated the following gentlemen for the various offices named, to wit: President, Theophilus Parvin, M. D., of Indiana. Vice-presidents, A. J. Fuller, M. D., of Maine; W. F. Westmoreland, M. D., of Georgia; John Morris, M. D., of Maryland; John H. Murphy, M. D., of Minnesota. Treasurer, Richard Dunglison, M. D., of Pennsylvania. Libra-

rian, William Lee, M. D., of District of Columbia. Committee on Library, John Eliot, M. D., of District of Columbia.

Next place of meeting, Atlanta, Georgia; time of meeting, the first Tuesday in May, 1879. Assistant secretary, Scott Todd, M. D., of Atlanta, Ga.

Committee of Arrangements: Dr. J. P. Logan, chairman; Drs. H. V. M. Miller, G. G. Crawford, H. L. Wilson, J. F. Alexander, J. M. Johnson, Charles Pinckney, V. H. Talliofero, J. T. Johnson, of Atlanta, Ga.

Committee on Prize Essays: Dr. Robert Battey, of Rome, Ga., chairman; Drs. J. G. Westmoreland, of Atlanta, Ga.; William A. Love, of Atlanta, Ga.; Robert Kidley, of Atlanta, Ga.; Henry F. Campbell, of Augusta, Ga.; J. H. Van Deman, of Chattanooga, Tenn.

Committee on Publication: Dr. William B. Atkinson, chairman; Drs. T. M. Drysdale, A. Fricke, S. D. Gross, C. Wister, R. J. Dunglison, of Pennsylvania, and William Lee, of District of Columbia.

The committee also reported the following nominations for chairmen and secretaries of sections for 1879:—

I. Practice of Medicine, Materia Medica, and Physiology: Dr. Thomas F. Rochester, of Buffalo, N. Y., chairman; Dr. W. C. Glasgow, of St. Louis, Mo., secretary.

II. Obstetrics and Diseases of Women and Children: Dr. E. S. Lewis, of New Orleans, chairman; Dr. J. R. Chadwick, of Boston, Mass., secretary.

III. Surgery and Anatomy: Dr. Moses Gunn, of Illinois, chairman; Dr. J. R. Weist, of Indiana, secretary.

IV. Medical Jurisprudence, Chemistry, and Psychology: Dr. William M. Compton, of Mississippi, chairman; Dr. L. M. Eastman, of Maryland, secretary.

V. State Medicine and Public Hygiene: Dr. John S. Billings, of District of Columbia, chairman; Dr. J. T. Reeve, of Wisconsin, secretary.

Alabama, Jerome Cochran; Arkansas, W. B. Welsh; California, W. F. Cheeny; Colorado, C. Dennison; Connecticut, C. A. Lindsley; Delaware, William Marshall; District of Columbia, T. Antisell; Georgia, J. W. Bailey; Illinois, H. A. Johnson; Indiana, James F. Hibbard; Iowa, J. A. Blanchard; Kansas, D. W. Stormont; Kentucky, S. Brandeis; Louisiana, Sandford E. Chaillé; Maine, A. P. Snow; Maryland, T. B. Evans; Massachusetts, H. I. Bowditch; Michigan, H. B. Baker; Minnesota, C. P. Adams; Mississippi, Wort Johnson; Missouri, Jacob Geiger; New Hampshire, G. P. Conn; New Jersey, E. M. Hunt; New York, A. W. Bell; Ohio, J. C. Reeve; Pennsylvania, Benjamin Lee; Rhode Island, E. M. Snow; South Carolina, R. A. Kinlock; Tennessee, T. A. Acheson; Texas, H. W. Brown; Virginia, F. D. Cunningham; Vermont, L. C. Butler; West Virginia, E. A. Hildreth; Wisconsin, J. T. Reeve; Florida, G. W. Betton; North Carolina, C. J. O'Hagen; U. S. Army, J. Smith, of Fortress Monroe; U. S. Navy, J. Wilson, of Washington; Oregon, H. Carpenter.

Committee on Necrology: J. M. Toner, M. D., of the District of Columbia, chairman. California, Henry Gibbons; Alabama, J. S. Weatherby; Arkansas, R. G. Jennings; Connecticut, G. W. Russell; Delaware, L. P. Buck; Colorado, R. G. Buckingham; District of Columbia, W. W. Johnson



Georgia, T. S. Hopkins ; Illinois, J. H. Hollister ; Indiana, John Moffitt ; Iowa, C. C. Bradley ; Kentucky, L. P. Yandell ; Maine, E. F. Sanger ; Massachusetts, J. R. Bronson ; Maryland, J. H. Hartman ; Michigan, W. F. Beakley, Minnesota, C. C. Cross ; Missouri, A. J. Steele ; New Jersey, John Blane ; North Carolina, N. J. Pitman ; Louisiana, Samuel Logan ; New York, J. P. Gray ; Ohio, Thad. H. Leamy ; Oregon, — — — ; Pennsylvania, Thomas H. Helsby ; Rhode Island, C. H. Fisher ; South Carolina, Manning Simmons ; Tennessee, Thomas Menees ; Texas, J. H. Stalnaker ; Virginia, L. S. Joynes ; Wisconsin, D. Mason ; Vermont, O. F. Fassett ; Mississippi, P. F. Whitehead ; Kansas, C. V. Mattram ; New Hampshire, L. G. Hill ; West Virginia, R. W. Hazlett ; U. S. Army, J. J. Woodward, Washington ; U. S. Navy, Joseph Wilson, Washington ; Nebraska, J. H. Peabody.

Judicial Council : To fill a vacancy caused by death, John P. Gray, of Utica, N. Y. In place of the seven whose terms expire at this meeting : D. A. Linthicum, of Arkansas ; Foster Pratt, of Michigan ; A. Woodward, of Connecticut ; J. M. Toner, of District of Columbia ; J. H. Van Deman, of Tennessee ; S. M. Benham, of Pennsylvania ; R. N. Todd, of Indiana.

All of which is respectfully submitted.

J. M. TONER, Chairman.

JOHN C. HUPP, Secretary of the committee.

Professor Davis, of Chicago, presented the following majority report of the special committee on the recommendations contained in the annual address of President Bowditch, delivered in Chicago last year, in which he urged the establishment of a general board of health as the indispensable initial measure in any systematic effort to inaugurate State medicine in any of the States of the Union. The excellent reports of Dr. C. F. Folsom, of the State Board of Health of Massachusetts, were referred to as embodying all the information concerning the real progress made in regard to the final disposal of sewage up to the present period.

#### MAJORITY REPORT.

So much of the recommendations made in the address of ex-President Bowditch as related to the revision of the United States Pharmacopœia was definitely disposed of by the action of the association at its last annual meeting. The remaining recommendations relate chiefly to alterations of the constitution in relation to membership and the ratio of representation from state and local medical societies, and to changes in the by-laws regarding the working of the several sections. The recommendation of the last annual address concerning the permanent membership of the association would require such changes in Article II. of the constitution as to make the permanent members consist of all those members of the profession who were regular members of the several state medical societies, and to remain such so long as they remained members in good standing of their respective state medical societies.

And to change the ratio of representation so as to read that "each State, county, and district medical society entitled to representation shall have the privilege of sending to the association one delegate for every twenty of its resident members," etc., instead of one for every ten, as heretofore. The idea

briefly stated is, that the nominal membership, under the name of permanent membership, should embrace as nearly as possible all the regular practitioners of the United States in good standing with the respective state medical societies, while the annual meetings of the association should be made smaller and more select by requiring twenty instead of ten members as the number entitled to appoint a delegate. After a careful examination of the whole subject, the undersigned members of your committee do not deem it wise to adopt the changes proposed for the following reasons : —

(1.) There is at present no uniformity in the plans of organization of the several state medical societies. In some of them all who become members of the county and district medical societies are recognized as members also of the state society. In others the membership is purely representative, consisting exclusively of delegates elected by the county societies of the State. In still others it is mixed, consisting partly of delegates from local societies and partly of members elected from year to year by vote.

And in one or more instances the state medical society is substantially an annual mass meeting, consisting of such regular practitioners as choose to attend and participate in the work of the society. Thence to adopt the whole membership of the several state medical societies as the permanent membership of this association would be to render it so unequal in the different States, and withal so changeable and uncertain, as to be of no practical value. The present mode of obtaining permanent membership by first serving as a delegate selected by some state or local society, affords some guarantee, both of fair professional ability and of personal interest on the part of the member, and yet accumulates members in a nearly equal ratio in all parts of the country where local organizations exist.

(2.) So long as all the important scientific work of the association is done in the several sections, and all its ethical or judicious business in an organized council, leaving only the social and general supervisory interests of the profession to the general sessions, there can be no important practical advantage in lessening the number of delegates to each annual meeting. On the contrary, the larger the number that annually assemble the greater will be the influence diffused through the profession, and the more ample the fund in the treasury for printing the transactions and promoting the scientific work of the association. The recommendation in the address covering the working of the sections aims at the accomplishment of two objects, namely, the securing of a higher grade of papers for the consideration of the sections and their announcement long enough before each annual meeting to become known to the profession at large, and a closer scrutiny of all papers and reported discussions before their transmission to the committee on publication.

To accomplish the first, it is proposed to have a standing committee of five members, selected by the Judicial Council, the term of office of one of whom shall expire each year, the vacancy to be filled by the council, so that after the first four years each member of the committee would hold his position five years. The duty of this committee will be to solicit from able and eminent members of the profession papers and communications on important subjects, sufficient to constitute the basis of the work of each section annually, and to publish the



list for each year in time both to become generally known to the profession and to be incorporated in the programme of each meeting by the committee of arrangements.

To accomplish the second, it is proposed that all reports and papers submitted to the sections, whether read wholly or by abstract, shall be subjected to the examination of experts, whose names shall be unknown to the profession, and shall receive their sanction before they can be transmitted to the committee on publication. In the amendments to the by-laws proposed by Dr. S. C. Busey, and now pending for the consideration of the association, it is proposed to accomplish the same object by a committee of three, on essays, appointed by each section.

While the by-laws as they now exist make it the duty of each section to refer all papers and reports presented to them which cannot be fully considered, or about which there may be some doubts, to special sub-committees, who have thirty days for making the necessary examinations and return of the papers to the permanent secretary with their written recommendations covering them, the present by-laws also define clearly the rules that should govern the sections and their sub-committees in the disposal of papers. If the officers and members of each section would make themselves familiar with the by-laws and ordinances as they now are, they would be found simple in method, fully guarding against hasty and injudicious references to the committee of publication, yet sufficiently liberal to encourage rather than repress voluntary contributions, especially relating to original investigations, from the younger members of the profession.

The changes proposed, both in the recommendations of Dr. Bowditch and the proposed amendment of Dr. Busey, would render the workings of the sections more complex, and if carried into practical effect would tend strongly to discourage volunteer papers from the young, who have most time and ambition for original investigation, by giving the solicited papers from those who were already eminent in the profession the preference. And yet, even the most eminent in our ranks would be found to furnish very few papers if they were required to comply literally with the proposed rules to send their papers to a committee in advance of the annual meetings, and then have them transferred directly to the hands of unknown experts for further criticism afterwards. After a careful review of the whole subject, aided by many years of careful observation in the two sections of the association, the undersigned would recommend no change in the present by-laws and ordinances regulating the working of the association, except the striking out of the paragraph in Section II. of the by-laws, commencing with "Papers appropriate to the several sections," etc., and inserting in its place the following:—

"It shall be the duty of every member of the association who proposes to present a paper or report to any one of the sections to forward either the paper or a title indicative of its contents and its length to the chairman of the committee of arrangements, at least one month before the annual meeting at which the paper or report is to be read. It shall also be the duty of the president and secretary of each section to communicate the same information to the chairman of the committee of arrangements concerning such papers and reports as

may come into their possession or knowledge for their respective sections the same length of time before the annual meeting. And the committee of arrangements shall determine the order of reading or presentation of all such papers, and announce the same in the form of a programme for the use of all members attending the annual meeting. Such programmes shall also contain the rules specified in the by-laws and ordinances concerning the consideration and disposal of all papers in the sections."

All of which is respectfully submitted.

N. S. DAVIS.

S. D. GROSS.

BUFFALO, June 4, 1878.

The following minority report was then read by the ex-president, Dr. Bowditch, of Massachusetts : —

#### MINORITY REPORT.

The undersigned still holds to the opinion that the submission to trained experts of all papers read or presented to the various sections of the association would tend to make our published transactions more interesting, and vastly to increase their scientific merits, although perchance making them less bulky.

He believes, moreover, that some other of the amendments suggested by him would ultimately be of service to the association.

He admits the cogency of the arguments of the majority of the committee in regard to permanent membership.

He still adheres to the idea that the time spent in discussions in regard to the by-laws in any scientific body is commonly so much time wasted which should be spent in more congenial and appropriate work, and that no changes, even though deemed very important by a few, should be made in the organic law, if they do not meet with favor with a large majority of the body.

And, finally, in full confidence that our present by-laws, if the chairmen and secretaries of the sections and of the committee of arrangements will do thoroughly their respective duty, as well as the meetings of this association and its transactions, will annually grow better as they have done in the past, the undersigned will not oppose the report of the majority of the committee.

HENRY I. BOWDITCH.

The majority report was adopted unanimously.

Dr. J. E. Cabell, of Virginia, chairman of the Section on State Medicine, then delivered an able address.

In regard to infectious diseases, the theory of a *contagium vivum* was well defended, with especial mention of the recent labors of Tyndall and Roberts, and the earlier teachings of Professors J. K. Mitchell of Philadelphia, Henle, and Dr. Curdwell in England. The application of the doctrine not only to certain infectious fevers, in which its presence is demonstrable, but also to other similar diseases, was considered legitimate, warrantable, and as adequate to explain the phenomena.

Dr. Sayre asked that the secretary place him on record as opposed to the resolution adopted last year, which declared that a fracture of any of the long bones could not occur without shortening. His request was granted.



FRIDAY, June 6th. After the reading of communications from the committee of arrangements, the reports of the various sections were received and referred. On motion of Dr. Scott, of Ohio, the amendment laid over from last meeting in regard to the establishment of a Section on Ophthalmology, Laryngology, and Otology was unanimously adopted, Professor Knapp, of New York, being appointed chairman, and Dr. Scott, of Ohio, secretary.

The following committee was appointed by the president to consider the subject of ozone: Prof. N. S. Davis, of Chicago, chairman. Drs. J. S. Billings, U. S. A.; W. N. Giddings, South Carolina; J. M. Toner, District of Columbia; and S. M. Bemis, South Carolina.

By a resolution offered by Dr. J. G. Hibbard, of Indiana, the committee of necrology was directed to notice the deaths of members of the association only.

On motion of Dr. A. N. Bell, of New York, the committee appointed ten years ago for the organization of state boards of health was continued. Dr. Atkinson reported that such boards had been established in nineteen States of the Union.

A communication was read from the Pennsylvania State Medical Society, recommending the metric system, and stating that that body had adopted it in their transactions.

The committee on securing medical uniformity in Europe, consisting of Drs. Sims, Drysdale, and Seguin, was continued.

In conformity with a resolution offered by Prof. N. S. Davis, a committee was appointed for the consideration of the practicability of establishing sanatoria for consumptives, and the more general utilization of our mineral springs, as recommended in the president's address. Prof. H. I. Bowditch, of Massachusetts, Drs. A. N. Bell, New York, J. L. Cabell, Virginia, S. E. Chaillé, Louisiana, and Chas. Denison, Colorado, were named by the president as the committee. He also appointed the following delegates to foreign societies: to European societies, Drs. Sims, Drysdale, Seguin, Daly, Halberstadt, Levis, and W. H. Pancoast; to the Canadian Medical Association, Drs. Brodie, Todd, Brush, and Clarke.

The Section on Psychology recommended the passage of certain resolutions, which were accordingly adopted, defining the legal status of the insane, asserting the right of insane patients to be treated at their own homes, and justifying the exercise of such remedial restraint as may be deemed necessary under state surveillance.

The address of Dr. Walter Kempster, chairman of the Section on Medical Jurisprudence, Chemistry, and Psychology was chiefly devoted to the study of local tissue changes in the brain, accompanying insanity and paralysis. The conclusions of Hughlings Jackson, Ferrier, and others agreed in the main with the lesions he had discovered in such cases, favoring the view of the localization of impressions in the brain; the convolutions in the anterior or emotional part of the hemispheres he frequently found to be the site of disease in cases of insanity.

The treasurer, Dr. Dunglison, reported a balance of \$2446.02. An appropriation of five hundred dollars was made as an honorarium for the permanent secretary.

The committee on prize essays recommended that both prizes should be awarded to an essay upon the surgical relations of the carotid, subclavian, and innominate arteries, presented by Dr. John A. Wyeth, of New York.

The report of the librarian recommending that Dr. Toner be added to the committee and that two hundred dollars be appropriated for the expenses of the library, it was, on motion, so ordered.

The proposals for the formation of a section on neurology and electrology, and one on dermatology and syphilis, were laid over under the rules.

Dr. J. M. Toner offered a series of resolutions *in memoriam* of Professor Henry, of Washington, which were adopted.

The amendments proposed at the last meeting by Dr. N. S. Davis, of Chicago, were adopted as follows : —

“Strike out all of third paragraph, Section VIII., ‘It shall be the duty of every member of this association, who learns that any existing medical school departs from the published conditions of graduation, to report the fact at the annual meetings; and, on proof of the fact, such school shall be deprived of its representation in this body.’

“Strike out all of second paragraph, Section IX., ‘This association recognizes as a “regular organized” medical college one that has been represented at any meeting, and that complies with the rules and directions found in the published Transactions, vol. xiii., page 33.’”

The proposed amendment in reference to the election of officers and change of organization was laid over to the next meeting.

Professor Richardson introduced Dr. Parvin, the president-elect.

(*To be concluded.*)

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## FEMALE MEDICAL STUDENTS AT HARVARD.

IN the admirable address of Dr. Minot, which we present to-day to our readers, allusion is made to the proposed admission of women to the medical department of the university. At the risk of wearying our readers with the woman question we propose to show why, in our opinion, it would not be desirable to adopt this plan of co-education of the sexes. In the first place, on moral grounds alone the faculty might hesitate to advise this step. Although the women who would attempt the somewhat rigorous course of instruction might not be numerous, it would nevertheless be impossible to avoid an indiscriminate mingling of the sexes in the dissecting or autopsy rooms, and in the amphitheatres, to witness exercises which justly have hitherto been thought of a character to be witnessed by one sex alone. The proprieties of these places have, in this city at least, been preserved with a somewhat jealous care; all but medical men and students have been rigorously excluded from the operating theatre, and careless exposure of female patients is scrupulously avoided. The discipline of the clinics is an important element in the course of instruction, and is not without a powerful bearing upon the future professional character of the student. One at least of the decencies of these places must be abandoned if we permit both sexes to visit



them simultaneously, or the medical instruction as it is now conducted must be seriously curtailed.

This leads us to that part of the question with which the school is more particularly concerned, namely, the direct injury to its present system of education. The great work which the college is now carrying through has involved radical changes in the old methods of instruction. Lecturing, as has been well said, has given place to *teaching*, and to carry out this plan effectually the number and variety of exercises have been greatly increased. The faculty are now introducing the preliminary examinations, and it is proposed before long to take the venturesome step of adding a fourth year to the course; in short, to carry the new system to its highest degree of perfection. In aid of these efforts Harvard is receiving the warm sympathy and respect of teachers throughout the land, many of whom yearn to emulate its example. It would seem that the school has a sufficiently difficult problem to work out, and, in view of the wretched character of the old and still largely dominant system, one of vital importance to the cause of medical education, without attempting an experiment which may so hamper its efforts as to postpone indefinitely the results for which it is now striving. We fear the prestige which now surrounds the medical department of the university, earned by its contempt for popular schemes for attracting students as well as for its rigid adherence to a scientific system, would be sadly dimmed in the eyes of those who would see in this a bid for popular sympathy, or a disposition on the part of the faculty to risk for a tempting prize its grand schemes for medical education.

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#### MEDICAL NOTES.

—“In the United States, with a population of 44,874,814, there are 62,383 doctors, or one doctor to every 600 persons. In France the population is 36,100,000, the physicians 19,902,—one doctor to every 1814 persons. Great Britain, with a population 32,412,010, has 19,385 doctors,—one to every 1672 persons. In the German empire there are 13,686 doctors, and 41,060,695 inhabitants,—one doctor to every 3000; in the Austro-Hungarian empire, population 35,904,435, and 14,361 doctors,—one to every 2500 persons. In Canada, with a population of 3,575,577, there are 2,998 doctors, or one to every 1193 individuals.”

—Bouchardat and Gubler have been very active in organizing an International Hygienic Congress, under the patronage of the French government. The congress meets during the Exhibition.

—Neumann, of Vienna, after extensive trials of chrysophanic acid (derived from goa powder) in the form of ointment, says it is an excellent remedy for herpes tonsurans, pityriasis versicolor, and psoriasis vulgaris; even inveterate forms of psoriasis can be abolished by this means.

—The *Record*, noting the death of a French student from small-pox contracted at his hospital, reëchoes the demand of the French journals that all students should be revaccinated, by suggesting that such a plan would not be amiss among our students.

## LETTER FROM BUFFALO.

MR. EDITOR, — I know of nothing which seems to me more unwise than the feeling on the part of many of the junior members of the Massachusetts Medical Society, that, because a gross insult was offered to the Massachusetts delegation some eight or ten years since, therefore they and all gentlemen from Massachusetts should hereafter keep aloof from every meeting of the American Association. I know very well that this feeling is still encouraged by some few influential older leaders of the profession, but I am thankful to see that their influence is waning in this matter.

In order to promote a cordial reunion of Massachusetts with the rest of the States, like that which existed when the late Dr. John C. Warren presided at our meetings, I write this note from Buffalo. We have had a delightful and most profitable time. Many excellent papers have been read. No want of harmony has been manifested. The sections have debated well. I heard at the Section on State Medicine a very interesting discussion by Jacobi and others on Diphtheria, its relations to croup, etc. Yesterday, in the Section on Practical Medicine, I saw a patient who had been operated upon by the injection of thirty minims of Squibb's fluid extract of ergot into a goitre (fifteen minims into each lobe), which protruded a few months since to the line of the front part of the chin. At my examination yesterday, I found not a trace of the tumor. Only a dense tissue seemed around the trachea, causing no inconvenience, and imperceptible save to minute manipulation, for the eye could discover nothing of importance.

The receptions have been most pleasant, by Dr. and Mrs. James P. White, the Buffalo Club, the Fine Arts Association, and the Society of Natural Sciences. Last evening the superb mansion and grounds of Mr. Bronson Rumsey were thrown open. The house contains many very excellent paintings and some of the finest bronzes. The grounds are very extensive. They were lighted in every direction with colored lanterns. The fountain was playing, cascades were falling over apparently natural rocky beds, and pretty winding by-paths were found filled by persons of both sexes and of every age. I assure you that as I stood beside the lake, on which were many party-colored boats filled with gay youth, I could imagine myself in France or Italy, rather than in the midst of an American city; for all the arrangements from the terrace upon which the parlor opens, and which was brilliantly lighted and filled with men and women in rich attire, to the model of the Temple of Vesta at Tivoli, upon the most prominent part of the grounds, reminded me more of Europe than of America. In fact I was constantly reminded of the graceful and gay scenes so well preserved to us by Watteau.

In the choice of our president I think we were very successful in getting the able and excellent man and hard worker, Dr. Parvin, of Indiana. He has been thought of for the office for some time, and he was carried into the chair with great unanimity. Some would have liked to see Dr. Austin Flint, Sr., placed there, because he has labored for the association when asked to do so, and I suppose I may say he stands *facile princeps* as the representative of American medicine, not only in America but throughout Europe, and is



beloved and respected by the whole profession. Others, again, urged the just claims of our host, Dr. White, preëminent as he is in one and a most important department of medical practice.

On Friday afternoon about six hundred ladies and gentlemen started in a special train for a trip to Niagara Falls. The excursion was finely conceived and admirably carried out by the committee of arrangement. We went down on the Canada side, passing around in front of both falls. At the Clifton House some took carriages and others walked over the new suspension bridge to the American side, and had views from Goat Island and its bridges of the rapids. A collation was provided at the International Hotel, and saving a delay of about two hours, caused by some unforeseen derangement of the trains, the excursion was a perfect success. We reached Buffalo at about eleven P. M. As usual, I have gained the acquaintance, and at times friendship, of persons never known before. It has always been so, and it is, as I deem it, one of the most useful as well as most delightful features of our annual reunions.

It was intimated recently at a meeting of the councilors of the Massachusetts Medical Society that it was hardly fit to amend our by-laws so as to make it incumbent on the various committees for nominations of officers to select annually delegates to the American Medical Association, because, as the opponent said, "one can't tell how long that body will continue in existence!" This recent meeting presents two cogent arguments against that absurd statement: (1.) As usual, as for many years past, we had at Buffalo about six hundred delegates and permanent members from nearly, if not quite, all of the States. (2.) The treasurer's report says we had received about *two thousand dollars more than our expenses!* Yours truly, HENRY I. BOWDITCH.

COMPARATIVE MORTALITY-RATES.

	Estimated Pop- ulation, July 1, 1878.	Deaths during week ending June 1, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean for ten Years, '68-77.
New York.	1,093,171	454	21.59	23.42	28.71
Philadelphia.	876,118	248	14.72	18.80	21.54
Brooklyn.	549,438	176	16.66	21.51	25.50
Chicago.	460,000	102	11.53	17.83	22.39
Boston.	375,476	139	19.25	20.10	24.34
Providence.	100,000	38	19.76	18.81	19.20
Lowell.	55,798	22	20.50	19.09	22.50
Worcester.	54,937	20	18.94	14.07	22.30
Cambridge.	53,547	9	8.74	18.69	20.83
Fall River.	53,207			1.35	24.96
Lynn.	35,528	18	26.36	0.42	19.67
Springfield.	33,981	9	13.78	6.02	19.77
Salem.	27,140	6	11.49	0.38	21.15

## HOSPITAL VENTILATION.

MR. EDITOR, — C. L. A., of Santa Cruz, Cal., in your JOURNAL of May 30, 1878, expresses surprise at criticisms made by J. L. B. on Dr. Wylie's essay on Hospitals, and asks to be enlightened. Let him read up on the law of diffusion of gases. He will thank you if you should call his attention to an article on this subject in the June number of the *Boston Journal of Chemistry*.

Yours truly,

E. A. CARPENTER.

PLATTSBURGH, CLINTON CO., N. Y., June 3, 1878.

AMERICAN NEUROLOGICAL ASSOCIATION. — The (adjourned) fourth annual session of this association will be held on Wednesday, June 19th, at two o'clock P. M., in the lower lecture room of the College of Physicians and Surgeons, Twenty-Third Street and Fourth Avenue, New York, and will continue three days. J. S. JEWELL, M. D., *President*.

E. C. SEGUIN, M. D., *Recording Secretary*.

BOOKS AND PAMPHLETS RECEIVED. — Dislocation of the Shoulder-Joint, caused by Muscular Spasm of Six Months' Standing, successfully reduced. Dislocation of the Femur on the Dorsum Ilii, in a Boy Six Years of Age, reduced by Manipulation. By A. B. Cook, A. M., M. D. (Richmond and Louisville Medical Journal.)

Tumor of the Male Breast and Cyst of the Neck. By J. H. Pooley, M. D. (Ohio Medical and Surgical Journal.)

Is Phthisis Pulmonalis Contagious, and does it belong to the Zymotic Group? By W. H. Webb, M. D. 1878.

Eighteenth Annual Announcement of the Bellevue Hospital Medical College. Sessions of 1878-1879. With catalogue.

Laparo-Elytrotomy: A Substitute for the Cæsarean Section. (American Journal of Obstetrics.) Comparison of the Results of the Cæsarean Section and Laparo-Elytrotomy in New York. The Intra-Venous Injection of Milk as a Substitute for the Transfusion of Blood, illustrated by Seven Operations. By T. Gaillard Thomas, M. D. (New York Medical Journal.)

Fluid Extracts by Repercolation. By Edward R. Squibb, M. D., Brooklyn, N. Y. (From the American Journal of Pharmacy, May, 1878, with additions.) Philadelphia. 1878.

A New Treatment for Spine Diseases. By Meigs Case, M. D. (Cincinnati Lancet and Observer, May, 1878.)

A Contribution to the Therapeutics of Migraine, Post-Paralytic Chorea, Localized Cerebral Lesions, Pathological Anatomy of Disseminated Cerebro-Spinal Sclerosis. Dr. E. C. Seguin. New York. 1878.

Old Age: Its Diseases and its Hygiene. By Lunsford P. Yandell, M. D. Louisville, Ky. (American Practitioner, February, 1878.)

Eulogy upon Lunsford P. Yandell, M. D. By Theodore S. Bell, M. D. Louisville, Ky. (American Practitioner, April, 1878.)

How to save the Perinæum. A New Use of the Obstetric Forceps. An Improved Instrument. By Edward Warren Sawyer, M. D., Lecturer on Obstetrics and Diseases of Children, Rush Medical College, Chicago. (Chicago Medical Journal and Examiner, May, 1878.)

Recent Progress in Dermatology. By James C. White, M. D.

The New York Herald's Atlantic Weather Service and Mansill's Planetary Meteorology.

Second Annual Report of the State Board of Health of the State of Wisconsin. Madison, Wis.: David Atwood. 1878.

Metric Weights and Measures for Medical and Pharmacal Purposes. Marine Hospital Service. Washington: Government Printing Office. 1878.

A Practical Treatise on Aural Surgery. By H. Macnaughton Jones, M. D., M. C. H., etc. Philadelphia: Lindsay & Blakiston. (For sale by A. Williams.)

Die Heilkräfte der Sogenannten indifferenten Thermen insbesondere bei Krankheiten des Nervensystem. Historisch-kritische Vorträge im Collegenkreise. Von Dr. Wilh. Theodor v. Renz. Tübingen. 1878.



# THE BOSTON MEDICAL AND SURGICAL JOURNAL.

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## LECTURES.

BOSTON CITY HOSPITAL: CLINICAL LECTURE NO. VI.

BY DAVID W. CHEEVER, M. D.,  
*Professor of Clinical Surgery in Harvard University.*

*Cold Abscess.* — GENTLEMEN: Our first case to-day is one of cold abscess, — a deposit of pus which forms slowly with absence of the ordinary inflammatory symptoms. The first question naturally is, What is its origin? In this patient you see above the internal abdominal ring a round swelling which fluctuates and evidently contains fluid. This is not a hernia, because its location is too high. Upon turning the patient around, however, we find he has Pott's disease of the spine. This trouble has existed since his childhood, and as the spinal curve has not changed for some time ankylosis of the bones has probably taken place. Of late the patient has been pretty comfortable, but a certain degree of inflammation has continued. The swelling is not properly a psoas abscess, as might be supposed, for it is not in the locality in which that form of abscess usually points, namely, just below Poupart's ligament, and near the site of the emergence of the psoas tendon. This abscess has probably followed the course of the ribs, for, as you will observe, posteriorly the trouble is quite high up, while in front the swelling is situated just opposite the superior spinous process of the ilium. It is causing much discomfort, and should be opened. If we were to do this freely decomposition of the contents would ensue by the admission of air. It will be much the better way, then, to evacuate by means of an aspirator. We shall use no ether. We place the patient on his back, as the evacuation may make him feel faint. This position causes the swelling to become very prominent. In these cases I always use a large needle, because the pus is often flaky, and will not flow through a small one. My impression is that after a couple of days we shall have the usual experience, — that is to say, the needle puncture will be open, and we shall have a discharging sinus. As you may notice, the pus is as thick as cream, and hence a smaller needle would have been useless. It is a good plan to empty partially these cold abscesses, and then compress by bandaging, and see whether

the swelling will not disappear by absorption. The tumor is painless. The abscess has not become attached to the skin. It would therefore be unsafe to lay it open with the knife. For this reason, too, it resembles a hernia, for it has pushed up beneath the skin, but has not become attached to it. It is probably, however, united to the muscles. For the first time I now feel the hard wall formed by a deposit of lymph, which heretofore the pus has concealed. As the sac becomes empty the needle touches its walls. We use a spica bandage and a pad, under the pressure of which the abscess may shrink and reabsorb. The patient will be kept in bed for a day or two, and we shall watch the result.

*Abscess over the Liver.*—Our next patient furnishes us with an extremely interesting case. He is a middle-aged man, and his ordinary look is pale and yellowish. Just now, under the stimulus of ether, he has a capillary erythema of the face. For a long time he has been traveling about the country with an operatic troupe, and has developed what he thinks is a liver complaint. At any rate he has been in the condition called “biliousness.” He has been variously treated in the out-patient department, and now presents himself with this remarkable swelling. Here is a tumor which resembles a carbuncle, and is situated just over the gall-bladder. Yesterday we saw only a smooth, shiny mass. During the night it broke at points, and now has such an appearance that we naturally ask, Is this a carbuncle or an abscess? It is immovable, at places runs up under the ribs, and appears to be attached to the liver. Abscess of the liver is a lesion which is often a result of dysentery, and is caused by septic matter which is carried to the liver by veins of the portal system. It is oftenest seen in hot climates. I have met with one or two cases of suppuration of the gall-bladder caused by stoppage. Abscess formed about the bladder itself, resulting in fistulæ, through which gall-stones were discharged. There is no such history in this case. The abdominal cavity is free from fluid, for on percussion we find the belly tympanitic down to the flanks, a certain proof that no ascites exists. The abdomen is loaded with fat, and when the patient inhales and we at the same moment percuss the part the fat ripples and looks much as it would if fluid were present. But there is none in the cavity at large; yet it sometimes happens that fluid becomes encysted locally. In this case, however, the abdomen seems to be all right. In treating this swelling the aspirator would be useless because it is already discharging. It may prove to be a cellulitis. At any rate, it will be proper to lay it freely open, so that we may examine it. I have had cases of abscesses in this region following confluent small-pox. I now incise the swelling, and find a cavity so large that it excludes all idea of carbuncle. Here is a distinct sac; there are hard walls, and my finger passes in under the ribs. The pus, which is flowing freely, is very offensive. There is no orifice at the bottom, and



the character of the pus and absence of gall-stones indicate a cellular abscess with a wall of lymph over the liver. Consequently there is no reason why there should not be improvement. What there may be behind this in the liver we do not know. There probably is organic disease.

Here I wish to make an important point: the first abscess which I showed you was not attached to the skin, for the latter could be pinched up independently of the abscess, and therefore, in the abdominal region, it would have been unsafe to use the knife. The abscess in this case, however, is firmly united to the skin and moves with it. The thinness of the skin over the abscess, the impossibility of pinching up the tissue here, the shiny look, the redness, the heat of the part, all prove the union of the abscess and the skin, and make it safe to lay open the swelling with the knife. In the absence of these symptoms the aspirator should be used. Ordinary abscess seems a trite subject, but about the abdomen, unless we treat them correctly and rightly decide as to whether they should be opened or aspirated, abscesses are attended with considerable risk, and this I wish to impress upon you.

We will now complete our treatment of this patient by poulticing the wound. It should be kept clean and allowed to discharge.

*Suppurative Periostitis.* — On the day before Christmas, this woman, who is not very strong, fell, and, she says, sprained her ankle. It may have been bruised. She comes to us with symptoms of inflammation over the spine of the tibia, as I will shortly show you. Another discovery, which I have just made, is these two lobulated swellings over the tendon of the flexor carpi radialis. They are, probably, old weeping sinews, indurated bursæ, which are attached to the tendon. The patient does not complain of them.

Here is the real trouble. You will observe that the left leg exhibits ancient scars, which are dimpled down and attached to the bone. They are the remains of former ulcers. Was their origin specific? I am inclined to think so. On the other leg we find a different condition of things. The skin blushes; there is pain, swelling, and œdema. These symptoms have existed for three weeks, and are probably due to pent-up pus. Where is this pus? It may not yet be formed, but in the formative stage. The probability is that suppuration is going on beneath the fascia and periosteum, — a periosteal abscess. The treatment should be radical, namely, a free and early incision down to the bone. I doubt if we find pus or anything more than a vascular condition of the fascia and periosteum, which will eventuate in suppuration.

In children who have periostitis an early incision is of the greatest importance, because of the extremely rapid development, at that age, of the inflammation, which quickly reaches and destroys the bone. In this leg the swelling is very manifest, and you will observe the round-

ing up of the tissues. On its inner side the tibia is subcutaneous, but the spine is rounded by the swelling, and here is the proper place for the incision. As the knife enters I find just beneath the skin great thickening and a cellular infiltration of lymph. The part is going through the stages of diffused suppuration. I have now reached the bone. Lymph has been thrown out in all directions, but there is no pus. The periosteum is easily scraped off, and the bone is already roughened. Now occurs the question, Is there pus within the bone? We may eventually have to trephine it, but at present that point cannot be decided. If this incision relieves the pain, suppuration may take place and repair begin. If not, then we have osteitis, which, from the history, is probably specific. In that case pain will continue, and pus may form in the medullary cavity. A week's waiting will decide the matter. It will be proper to poultice the part, put the patient on the iodide of potassium for ten days, and watch for developments. This is an interesting case because it suggests several theories as to its real nature.

*Secondary Inflammation.* — Suppuration, to-day, seems to supply us with all our patients. But, indeed, if suppurative cases were excluded surgery would lose three fourths of its interest.

This man is the patient who came before us three weeks ago with a wound in the left hand, which had been caused by a pickaxe. The point was driven through the hand, carrying with it a portion of the fifth metacarpal bone. Since that day I have once incised the hand, and now, as you may see, by infiltration it has become brawny quite up to the wrist. It looks as if the fourth metacarpal bone had become involved, for this bone and the one which was mutilated articulate with each other and with the unciform bone of the carpus, and I fear that inflammation, by spreading from the injured to the sound bone, has caused caries. Within the last ten days the man has lost color and appetite; has been sleepless; has had more pain; and the swelling of the hand has increased. I probe the old cavity, and at a considerable distance from the opening at once find denuded bone. My probe is now at the upper end of the fourth metacarpal bone, and now slips under the bones of the carpus, which also are denuded, and seem roughened in all directions. I demonstrate the locality by the length of probe which enters. This is one of those bad cases which necessitate either amputation or the removal of several bones. The problem is: Given a strong and healthy man with an injury of the hand, which runs into caries of bones originally unaffected; is he likely to save his hand? In such a case the probabilities are that amputation will become necessary. The first thing to do, however, is to lay open the affected member to give egress to the pent-up fluids. The incisions should be made wherever the pus will flow freely, and in cases like this we usually find several points which seem to be connected with a crater, at the bottom



of which is the source of the pus. But, as in our patient, these appearances are sometimes deceptive. I cut, but find no pus. Just at this point the radius is denuded of periosteum, thus showing how widely the inflammation has spread. Flakes of lymph issue, but no quantity of pus. A radical operation may be required, but we will wait a while longer before we do it.

Now arises the question, Do we not, by making these incisions, increase the risk? This matter has been much agitated. Before we made them there were granulating centres which were incapable of absorbing septic matter. On the other hand, by making the cuts we open vessels which can absorb the deleterious matter. At the same time, notwithstanding they are attended with the risk of causing pyæmia, these incisions were proper. We shall very soon have to ask, With such a condition of the hand, can this man recover? I doubt it, and fear that amputation will be the only alternative. At present we shall subject the hand to compression, and afterward place it on a splint, dress it lightly and antiseptically, give the patient iron, quinine, and ale, and send him out to walk in the open air every pleasant day.

*Malignant Tumor of the Breast.* — This woman, aged fifty-one, has an enlarged breast. So far as she knows a tumor has been growing in the right mammary gland for a year. The condition seems to correspond with the popular idea (which perhaps is not devoid of truth) that changes in the breast are more apt to occur after than before the close of menstruation. The tumor seems to be confined to the breast, and in some respects is peculiar. The query is as to its nature. The discoloration of the breast is merely the result of some application which has been made. The growth, as you see, is limited to the upper half of the gland. Some of the mammary lobes are soft and normal; this one, however, is hard and fluctuating. The nipple is not retracted; the skin is not involved, and can be pinched up over the tumor. It has the characteristics of a cyst, but if it were simple cystic disease of the gland, there would have been a serous discharge from the nipple, and the patient would have remarked exuding drops of clear fluid. It is more likely to prove a malignant cyst or a cystic sarcoma. I think we shall find a cavity filled with blood and broken-down cells. It will necessitate the removal of the whole breast. I propose to do this under the antiseptic method, which requires the knives, sponges, ligatures, and dressings to be washed and carbolized. The operation is done under a constant spray of carbolic acid, in which process, if it be prolonged, the patient is liable to become wet. We must then keep up her temperature by means of blankets. I make a double curved incision, one on either side of the nipple, thus isolating it and an elliptical section of the skin, which will be removed with the gland. In this way we avoid having redundant tissue after the gland is excised. The

tumor does not involve the pectoral muscle. The breast is very large and flat, and has a broad base, which makes its enucleation a prolonged affair. I now find there is no cyst, but that the tumor is a soft solid, showing how we may be deceived by palpation. In these cases it is very important to remove all the glandular tissue in order that there may be no early renewal of the morbid growth. I tie the vessels with carbolized catgut, and cut the ligatures off short. I draw together the skin with carbolized silk sutures. The wound is covered with protective carbolized gauze and salicylic cotton. Each subsequent dressing must be done under carbolic spray.

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## RECENT PROGRESS IN DERMATOLOGY.<sup>1</sup>

BY JAMES C. WHITE, M. D.

*Leucoplakia Buccalis.* — Dr. Schwimmer contributes a very important and exhaustive paper<sup>2</sup> on this affection of the mucous membrane of the cavity of the mouth. We allude to it, inasmuch as it is not in the province of dermatology, merely to say that the writer discards as entirely incorrect the names psoriasis and ichthyosis, at times applied to it. The above title proposed by him is a very appropriate one, and does not mislead.

*Eczema.* — In a long article<sup>3</sup> upon this affection, made up from the lectures of Guibout, at Saint-Louis, by M. Magne, we have an expression of the more recent views of the French school of dermatologists. He recognizes, first, an idiopathic eczema caused by more or less prolonged irritation of the skin, superficial or deep seated, of which the forms produced by various occupations and by animal or vegetable parasites are examples. Second, a true eczematous fever, a pseudo-exanthematic affection, analogous to scarlatina. Third, an *eczema herpétique*, characterized by its general distribution, its duration, its relapsing, symmetry, and obstinacy. He regards eczema, in fact, as one of the most common and grave manifestations of herpetism. He denies the existence of Bazin's *eczema arthritique* and *scrofuleux*, because, he says, the arthritic diathesis does not exist, and because the characteristics attributed by Bazin to his arthritic eczema are not constant or pathognomonic. He does not admit the scrofulous form, because no truly distinctive character has been assigned to it, because its relatively short duration in children is wholly unlike the chronic course of scrofula, and because this eczema exists more or less with nearly all children, and it is impossible to admit that nearly all children are scrofulous. This reads strangely, for just such arguments are used by nearly everybody out of France against the existence of the darts or herpetic diathesis.

<sup>1</sup> Concluded from page 774.

<sup>2</sup> Vierteljahresschrift für Derm. und Syph., IV. Jahrg., 4 Heft, and V Jahrg., 1 Heft.

<sup>3</sup> Annales de Derm. et de Syph., Tome ix., Nos. 1 and 2.



*Eczema produced by Oxyurides.* — Michelson reports<sup>1</sup> the case of a child thirteen years old, who complained of itching in the inguinal region, which was found to be the seat of an impetiginous eczema marginatum, suggesting the presence of trichophyton. The centre of the eruption presented a moist surface covered with little red points and with foetid débris of macerated epidermis. Microscopic examination revealed, not a vegetable parasite, but the eggs of the oxyuris in various stages of development. It is probable that the worms were attracted from the rectum to the parts prepared for the reception and development of their eggs by the heat and moisture of the eczematous skin. Cure was rapidly effected by the use of warm baths and a lotion of salicylic acid.

*Treatment of Chronic Eczema by Glycerole of Subacetate of Lead.* — Dr. Squire, in the second edition<sup>2</sup> of this paper, publishes an appendix in which he advocates the mixture of the preparation with vaseline, six parts of the former to twenty-eight of the latter, and the employment of this ointment in various forms of chronic eczema.

*Nævus Papillaris Neuroticus.* — Neumann reports<sup>3</sup> a case of this rare affection, consisting in the development of firm papillomatous growths, resembling in appearance vesicular efflorescence, but with an uneven, warty surface, arranged in well-defined stripes or bands along the course of the nervus cut. femor. poster., and the distribution upon the back and sole of the foot. It was remarkable for its perfect development during intra-uterine life, and for its spontaneous disappearance soon after birth, whereas such growths generally undergo further development.

*Nerve Section in Elephantiasis Arabum.* — Dr. Morton,<sup>4</sup> of Philadelphia, has lately treated a case of this affection by this novel method. The patient was a colored man, who had had the disease in the right leg fourteen years prior to 1873, when he entered the Pennsylvania Hospital, at which time and place Dr. Morton tied the femoral artery. He was discharged in three months "much benefited." Last November he was again admitted to the hospital, when the leg was found to be double its size when last seen, measuring twenty-one inches in circumference. Having noticed the frequency with which operations for nerve section are followed by atrophy of parts supplied by such nerve, Dr. Morton laid bare the right sciatic nerve, and cut out one and one half inches at the upper third of the thigh. No unpleasant symptoms occurred, and there has been a steady diminution in the size of the limb, a reduction of eight and one half inches in circumference in six weeks. There has also been a great peeling off of the patches of

<sup>1</sup> Berliner klinische Wochenschrift, 1877, No. 33.

<sup>2</sup> London: J. and A. Churchill. 1878.

<sup>3</sup> Separatabdruck aus dem österr. Jahrbuch für Pädiatrik.

<sup>4</sup> Philadelphia Medical Times, January 19, 1878.

hypertrophied epidermis, which covered the leg from the knee to the ankle, leaving a soft, clean, and pliable skin beneath. There has been no disposition to ulceration, and the lost sensibility is confined to the sole, the anterior portion of the dorsum, and a narrow strip of skin running half-way up the posterior aspect of the lower leg. As the patient has had a severe attack of pleuro-pneumonia since the operation, and therefore necessarily has kept his bed a part of the time at least (time not mentioned), it is impossible to say how much of this reduction in the size of the limb may be due to position alone.

*Lupus Syphiliticus and Scrophulosus.* — Professor Auspitz, of Vienna, in this paper<sup>1</sup> replies to a communication of Kaposi, in which the latter maintains that the former title is a misnomer, as there is no such process as a syphilitic lupus. To show the more plainly the differences of opinion between himself and Professor Kaposi, Auspitz sets forth in the beginning the points of belief in which all observers agree concerning the nature of lupus, as follows: (1.) Lupus is a so-called granulation-new-growth, consisting, that is, of embryonic cell elements, which never advance to any higher development, — an infiltration, such as also characterizes syphilis, scrofula, and leprosy. The character of this “granuloma” as an independent form of new growth was first established by Virchow. (2.) The development and seat of this granulation-new-growth is exclusively in the tissues of the corium. (3.) The small-celled granulomas occur in the form of more or less sharply defined, larger or smaller, foci, which betray themselves externally by the development of nodules of dark-red color and firm consistence. They often unite to form flattened elevations, and spread outwardly, sometimes subsequently with crescentic borders. (4.) Their elements being incapable of farther development beyond a certain point, they retrogress by softening, undergoing caseous degeneration, suppurating, ulcerating; or they atrophy, and leave behind cicatricial contractions. (5.) These processes have a general character of chronicity in all their stages of development and retrogression.

These characteristics are common to all the granulomata of the skin, but the clinical distinctions usually made between the lupus form and others are thus stated by Auspitz: The ulcers of lupus as well as of syphilis are often round, and have sharply defined edges, but the former are at the same time flat, scarcely if at all painful, and have red, granulating, and easily bleeding edges; those of the latter, on the other hand, are very painful, with edge and base thickly infiltrated and coated. Lupus never begins except in the form of small papules deeply imbedded in the corium; not as large palpable nodules from the start. There is never to be observed in individual lupus nodules the constant peripheric progress and analogous degeneration as in syphilis, and

<sup>1</sup> Separatabdruck aus der Wiener mediz. Presse.



therefore the ulcer of lupus never has the kidney form. The nodule of lupus progresses more slowly than that of syphilis. Destruction of the nasal bones and perforation of the hard palate do not occur in the former, often in the latter. Lupus begins always primarily in early childhood; syphilis may begin at any age. In the lupus papules the stick of nitrate of silver penetrates easily; not so in the nodules of syphilis. The latter, both when fresh and ulcerating, disappear, as a rule, with surprising quickness under mercurial plaster; those of lupus do not, nor are they influenced by other antisyphilitic remedies. That there are cases which are as abruptly defined, and can be as readily distinguished from scrofulous and syphilitic lesions of similar character, as above represented, Auspitz does not deny; but he maintains that these are exceptionally typical in character, and that it is impossible to distribute a series of cases under any such sharply defined rules of classification. With him lupus must have a much broader clinical significance. He would apply the name to a group of symptoms which develop upon the anatomical substratum of a granuloma, and are characterized clinically by the persistence, continuous relapse, and the slow degeneration of their nodular, flattened, and often serpiginous forms of eruption, which sometimes are scaly, sometimes ulcerate, and sometimes atrophy into cicatrices without ulceration. Under this definition he believes that certain forms of inveterate and hereditary syphilis may properly be called syphilitic lupus; and the same holds true, in his opinion, of scrofula.

*Unilateral Idiopathic Cutaneous Atrophy.* — Dr. Atkinson, of Baltimore, reports<sup>1</sup> an extensive case of this very rare disease, affecting in progressive course a large portion of the left abdomen, flank, and leg. With the atrophy of the tissues of the corium there were also increase of pigment and hypertrophy of the cutaneous capillaries in some parts. While calling attention to the apparently near relation of the process to morphœa, hemiatrophia facialis, and Hebra's partial idiopathic atrophy, Dr. Atkinson does not attempt to explain its pathology.

*Leprosy in England.* — Dr. Gaskoin, surgeon to the British Hospital for Diseases of the Skin, in recent articles<sup>2</sup> cites instances which lead him to the conclusion that the disease must still be regarded as indigenous to Great Britain, although it ceased to be endemic to any extent at the end of the last century. There is little doubt, as he says, that elsewhere than in England the opinion is so strong that the disease cannot exist outside of well-known leprous countries and communities that rare cases are not recognized when they occur.

*Inoculation of Vegetable Parasites.* — Dr. Wigglesworth communicates<sup>3</sup> the results of his inoculation of the parasitic fungi upon the skin,

<sup>1</sup> Richmond and Louisville Med. Journal, December, 1877.

<sup>2</sup> Medical Times and Gazette, January 26, 1878, and May 4, 1878.

<sup>3</sup> Archives of Dermatology, January, 1878.

and offers the following conclusions: All vegetable parasites of the skin are not inoculable at all times and upon all persons. Varying degrees of intensity or duration of application are needed for successful inoculation of different parasites upon the same skin, the severer cases requiring more thorough inoculation. A healthy skin may resist the action of the less severe but more widely spread mycoses, but yields to the more thorough inoculation of the more severe and rare forms, showing that the resistant power of the soil furnished is a factor to be regarded. Extension and intension are in inverse ratio to each other. The milder mycoses are the more common, and point to an origin upon skins below par in vigor. The various mycoses of the human integument possess each its own distinguishing characteristics, although a transitory stage of growth of one of them may, in rare cases, as in the "ringworm stage" of favus, simulate in appearance one of the forms, temporary or more permanent, of an apparently different species. While botanical and clinical observations are so at variance in reference to the identity or non-identity of the mycoses, this question must be regarded as still undecided.

*Eczema Marginatum* (*Tinea Circinata Cruris*).<sup>1</sup> — Dr. Bulkley presented a detailed report of twelve cases of this affection in a paper read at the first annual meeting of the American Dermatological Association. Ringworm of the central parts, to which this title, introduced by Hebra, has been generally applied, — the lower abdomen, inner surface of the upper thighs on their anterior and posterior aspects, and buttocks, — is by no means as common with us in America as in the Austrian or Indian empires. Certainly, here in New England, where the other forms of *tinea trichophytina* are very common, it is rare. We have occasionally cases of ordinary circinate ringworm of these parts, which in no way resemble the *eczema marginatum* of Hebra; we sometimes also see *eczema* of these same parts with an elevated margin and slowly progressive serpiginous advance, resembling the latter so closely as to be undistinguishable to the eye alone, and yet affording no evidence on thorough microscopic examination of the presence of the *trichophyton*, and not yielding to the action of parasitocides. These are conditions not to be forgotten in a study of the disease in question. In the treatment of the affection Dr. Bulkley relies mainly on the free application of sulphurous acid solution several times a day. In making our selection from the remedies which are found of the greatest service in ordinary forms of *tinea trichophytina*, we must not lose sight of the *eczematous* element so peculiar to its seat upon these parts, nor of the special sensitiveness of the genital and anal regions to irritating applications.

*Tinea Trichophytina*. — Dr. Rohe, of Baltimore, communicates<sup>2</sup> the

<sup>1</sup> Chicago Medical Journal and Examiner, November, 1877.

<sup>2</sup> Maryland Medical Journal, March, 1878.



history of two cases of ringworm; and the results of inoculation of the fungus from them upon his own person. He is disposed to doubt the existence of a true parasitic sycosis, as it seems to him "that the running together of simple ringworm of the beard and parasitic sycosis for the sake merely of completing an ætiological classification involves too much assumption, and lacks a very necessary basis of facts." If the connection between the two affections were one merely claimed upon the grounds here suggested, Dr. Rohe's views would be correct, but as "facts" are overabundant which prove the unbroken identity of *tinea barbæ* from its ringworm stage to the most advanced forms of sycosis the necessity of assumption is not apparent. The resemblance between the early circinate form and the description of parasitic sycosis by Dr. Dühring in his text-book, as quoted by Dr. Rohe, may not be closer than that of the polliwig and the frog, and yet the two be identical except in age and anatomical seat. For the treatment of ringworm in all its forms Dr. Rohe prefers carbolized oil, one part to fifteen, and he does not consider epilation at all necessary.

*Vegetable Parasites of the Hair.* — Professor Hardy,<sup>1</sup> in a memoir read before the late international congress of medical sciences at Geneva (Quelques Considérations sur l'Étiologie, la Nature, et le Traitement des Maladies contagieuses du Système pileux), maintains as firmly as ever his belief in the parasitic and contagious nature of alopecia areata, and cites numerous facts in support of this view. He recognizes the well-established transition of *tinea circinata* into sycosis, and expresses his belief in the botanical individuality of the plants found in favus, ringworm, and circumscribed alopecia (*pelade*).

*Demodex Folliculorum in the Skin of the Ox.* — Mr. Walter Faxon, instructor of zoölogy in Harvard University, publishes<sup>2</sup> a paper founded upon the examination of some cowhides submitted to him on account of their diseased condition by a firm of leather dealers. The hides had been received by them from Illinois and Minnesota. In the parts about the neck and shoulders especially the skins presented numerous slight swellings, which under pressure emitted a quantity of soft, whitish material, which by the microscope proved to be sebaceous matter containing multitudes of *demodex folliculorum*. After the hides were tanned and split the leather appeared disfigured with pits from one to six millimetres in width, which in many cases penetrated through the thickness of the leather. In some cases eight or ten pits occurred within the area of a square inch. Sections showed that they were diseased and enlarged hair follicles. Mr. Faxon describes and figures the appearances of the animals as perfectly as they could be determined in their tanned condition. He is uncertain whether they are identical with the species found

<sup>1</sup> Annales de Derm. et de Syph., Tome viii., No. 6.

<sup>2</sup> Bulletin of the Museum of Comparative Zoölogy, vol. v., No. 2.

upon man. M. Mequin (see last report) believes that those found upon the dog, cat, and sheep are distinct from that of man, and are not transferable to the latter. Upon the dog they produce one of the varieties of mange and loss of hair, but that they could cause so serious anatomical changes as to damage leather had not previously been observed. Mr. Faxon believes it probable that the parasites would not have got such a hold upon the cattle unless their skins had become torpid by ill keeping, but of this there is no evidence. Upon man they give rise to no injurious effects.

*Cysticercus Cellulosæ in the Skin.* — Lewin publishes<sup>1</sup> a report of three cases of the occurrence of this parasite in the cutaneous tissues. One of them, a man twenty-two years old, presented a number of tumors of the size of a cherry or hazelnut in the middle of the back, in the hypogastric and gluteal regions. They were somewhat elastic. Although not painful on pressure, they were so spontaneously at times. They were somewhat movable between the skin and the subcutaneous tissues. They had been looked upon by the attending physician as syphilitic gummata, but one which was extirpated proved to contain a cysticercus with a circlet of hooklets. Thirteen months later new tumors showed themselves. The other cases cited had also been mistaken for syphilitic tumors.

*Diseases of the Nails.* — Hutchinson, in a recent lecture<sup>2</sup> on these affections, which are so little understood even by dermatologists, enumerates the following forms which he proposes to consider in detail in the future: (1.) Onychia, unguinal whitlow, or suppurative inflammation of the nail bed. (2.) Onychia maligna, occurring in strumous or syphilitic children chiefly, with much expansion of the fingers ends. (3.) In-growing toe-nail, a modification of unguinal whitlow. (4.) White specks in the nail substance, caused usually by injury to the surface of the nail near its matrix in the young. (5.) Transverse lines on the surface of the nails after disturbances of general health. (6.) Psoriasis of the nails, of several forms, not necessarily connected with real psoriasis. (7.) Chronic onychitis, connected with eczema. (8.) Chronic onychitis in association with pityriasis rubra. (9.) The same, in association with pityriasis palmaris (?). (10.) Syphilitic psoriasis of nails. (11.) Parasitic disease of the nails, tinea unguium.

<sup>1</sup> Viertelj. für Derm. und Syph., IV. Jahrg., 4 Heft, from Charité Annalen, XI. Jahrg., 1877.

<sup>2</sup> Medical Times and Gazette, April 20, 1878.



## ANNUAL MEETING OF THE MASSACHUSETTS MEDICAL SOCIETY.

At the outset it gives us pleasure to say that the meeting in all its details was a thorough and gratifying success.

During the forenoon of Tuesday, the 11th, the Fellows were entertained at the various hospitals. At the Massachusetts General Hospital Dr. J. C. Warren explained the antiseptic treatment, removed a breast under antiseptic precautions, and showed a number of cases illustrating this mode of treatment. He also removed a supra-hyoid cyst; several other operations were performed by Dr. Beach. There was a large attendance. At Carney Hospital Dr. John Homans exhibited his case of lumbar colotomy, upon which he operated in March last, and which is doing excellently well. Dr. E. H. Bradford showed several cases of hip disease under treatment. At the City Hospital Dr. Cheever amputated a breast for cysto-sarcoma, and Dr. Thorndike amputated a leg, both operations being done antiseptically. Dr. Ingalls began to operate on a malignant tumor at the angle of the jaw, but found it involved the internal parts so extensively that he left the operation incomplete. Dr. Chas. D. Homans also removed epitheliomatous growths from the wrist and neck. Dr. Hingston, of Montreal, was one of the guests.

At twelve o'clock, noon, the first meeting of the society was promptly called to order in the hall of the Lowell Institute by President Cogswell. He at once introduced Dr. John Crowell, of Haverhill, who read his paper on Anomalies in Pregnancy. Very interesting papers on Floating Spleens, by Dr. Frederick C. Shattuck, of Boston, and on Absence of Resonance in Fifth Right Intercostal Space, diagnostic of Pericardial Effusion, by Dr. T. M. Rotch, also of Boston, then followed. A single question on the first paper was asked by Dr. Bancroft. This was the only effort at discussion of any paper read on either day of the meeting.

This meeting adjourned at two P. M.

At one P. M. of the same day the Massachusetts Medico-Legal Society met in the rooms of the Suffolk District Society for the annual choice of officers and the transaction of other business. With the two exceptions of the substitution on the board of censors of Dr. A. Elliot Paine for Dr. J. R. Brewster, of Plymouth County, and the vacancy left by the resignation from this board of Dr. M. F. Delano, Barnstable County, the entire list of officers and committees was reëlected for the coming year. The following gentlemen were elected associate members: Dr. A. H. Johnson, Salem; Dr. Wm. B. Hills, Boston; Prof. Henry P. Bowditch, Boston; Dr. Thomas Dwight, Boston; Francis Wharton, LL. D., Cambridge; Dr. G. K. Sabine, Brookline; Dr. E. G. Cutler, Boston. As active members: Medical Examiners E. P. Miller, Fitchburg, Otis Fernald, Haverhill, and R. B. Root, Georgetown. The censors announced that they had organized as a board with Medical Examiners Presbrey and Draper as chairman and secretary respectively. Voted, that the report of the executive committee and the appointed communications be read before the Fellows of the Massachusetts Medical Society.

Accordingly, at three P. M. the Fellows reassembled to the reading of the

following papers by members and associate members of the Massachusetts Medico-Legal Society: Annual Address of the President, Dr. Alfred Hosmer, of Watertown. A Digest of Returns from Members of the Society, by the corresponding secretary, Dr. Frederick Winsor, of Winchester; Concerning Coroners, and the Theory and Practice of Inquests, by Theodore H. Tyndale, Esq., of Boston; Value of Anatomical Evidence, by Adj. Prof. R. H. Fitz, of Boston; The Relation which Chemistry bears to Forensic Medicine, by Prof. Edward S. Wood, of Cambridge; Cases illustrating the Work and Duties of the Medical Examiner, by Dr. F. W. Draper, of Boston; A Case of Arsenical Poisoning, with Fatty Degeneration of Liver, Kidneys, etc., by Dr. Joseph G. Pinkham, medical examiner of Lynn.

These papers, singly and collectively, merit warm praise. They were of deep interest, were heard with marked attention, and, since they occupied a field hitherto unworked by any branch of the Massachusetts Medical Society, they likewise proved extremely instructive. The rule of the society confining each of the readers to twenty minutes of time is most sensible, because the chief points of any topic can be clearly set forth within that period. There was no discussion, and the meeting adjourned at six p. m. One hour later, — seven p. m., — in the rooms of the society on Temple Place, President Cogswell called to order the annual meeting of the councilors. Discussions of a somewhat interesting nature were anticipated, and the room was crowded. Recording Secretary Dr. F. W. Goss read the record of the past year. Sixty-six new members have been admitted to the society. Thirty-five Fellows have died within the twelve months, among them Dr. Josiah Bartlett, an ex-president of the society. The oldest of the deceased members was Dr. Grosvenor, of Reading, aged ninety-one; the youngest, Dr. Emery, of Truro, aged thirty-one. We find the average age of the deceased Fellows to be sixty-one years, seven months, a remarkably and probably unusually high average. It bears witness to the good longevity of the Massachusetts physician, and the many gray heads at the recent meeting offered still better testimony.

The treasurer, Dr. F. W. Draper, next read his report, which showed that the receipts of the last year were \$9014.17, expenditure \$6797.51, balance on hand \$2216.66; funded property of the society, \$31,140.17. For a long time this fund was \$30,000; the additional \$1000 was a gift of Dr. B. E. Cotting, the income of which, with kindly forethought, he directed should be used to furnish a substantial lunch at the October and February meetings of the councilors.

Dr. Wadsworth, of the auditing committee, then made his report, which was accepted.

Dr. Geo. H. Lyman, chairman of committee on finance, recommended that seventy-five per cent. of the balance in treasurer's hands be distributed to the various district societies. Acceded to by a unanimous vote. Dr. Lyman then read the names of gentlemen the amount of whose fines he proposed should be lessened by a liberal deduction. To this proposition, with one exception, the councilors agreed. This exception was a member who is a medical examiner, and who obtained the position through his connection with the society. It was thought that his salary should enable him to pay his dues.



Dr. Minot, chairman of committee on resignation, made his report. Adopted.

In his report as librarian, Dr. David H. Hayden stated that the system of exchanges with other state societies was working so successfully that twenty-six societies now send in their transactions.

The appointment of time and place for the next annual meeting — Boston, second Wednesday in June, 1879 — was then made.

Dr. H. I. Bowditch's proposed amendment of line 23, section 13, of the by-laws was next taken up. The original section relates to election of officers and standing committees. Dr. Bowditch proposed to add to the line mentioned, "and also appoint delegates to the American Medical Association."

Dr. H. W. Williams expressed regret at being obliged to differ from Dr. Bowditch, but since delegates who are members of the Massachusetts Medical Society are sent to the American Medical Association every year, he thought that quite enough without making the necessity a law. The American Medical Association has not shown any special ability or great utility, and has not published much of value. A high authority in that association said we had done an unadvised thing in expelling homœopaths. He hoped we were not to be a vassal of the association, and thought there were strong objections to changing our by-laws.

Dr. Bowditch replied that he wished no discussion, but we should never have expelled homœopaths. It has not been done in Germany, and homœopathy in that country is dead. As for no good having been accomplished by the association, it has done immense good. It has been in existence longer than many other societies. This of itself is praiseworthy. We are not a vassal, but the society may send honorable delegates to the American Medical Association. The mere formation of good friendships with physicians in distant States of itself makes the association valuable.

Other discussion followed. The president then called attention to a rule of 1852, which authorizes the society to send delegates to the American Medical Association. The whole rule, with Dr. Bowditch's amendment, was then read.

Dr. Williams hoped the permission to send delegates, which is already included in the rules, would be considered sufficient.

Question was called, and the amendment was defeated by fifty negative to twenty-one affirmative votes.

A petition from the Worcester District was next presented, begging that the town of Groton might be assigned to the Worcester North District. Referred to a committee of three.

The committee on nominations then reported the list of officers for 1878-79 as follows: For president, Dr. George H. Lyman, of Boston. Vice-president, Dr. David P. Smith, of Springfield. Treasurer, Dr. Frank W. Draper, of Boston. Corresponding secretary, Dr. Charles W. Swan, of Boston. Recording secretary, Dr. F. W. Goss, of Boston. Librarian, Dr. D. H. Hayden, of Boston.

A subsequent vote made the election of these gentlemen nearly unanimous.

Dr. G. W. Garland was appointed orator, and Dr. C. C. Holmes, of Milton, anniversary chairman, for 1879.

At the request of the Suffolk District Society a committee consisting of Drs.

Robert Amory, R. T. Edes, and E. S. Wood was appointed to consider changes in the United States Pharmacopœia, to report at next meeting.

Drs. S. A. Greene, B. J. Jeffries, and J. C. Warren were made a committee to consider the application of gentlemen to be restored to the society.

The committee on publications made their report through Dr. G. C. Shattuck. We shall refer to his remarks in the details of the Wednesday A. M. meeting.

Standing committees and the committee of arrangements for 1878-79 were then announced. In the committee on finances Dr. G. J. Arnold replaces Dr. Lyman, now president-elect. Otherwise all committees remain as they were for 1877-78.

Dr. B. E. Cotting, chairman of the committee on ethics, was next called upon to present the proof of a new code of ethics for the Massachusetts Medical Society. He said that this proof was based upon a study of all attainable codes of the past two hundred years, the major portion being taken from the Percival Code of 1803. It also contained all reasonable suggestions which the committee had received from scores of physicians in reply to requests for such hints. He hoped it would be found systematic, practicable, and satisfactory in all ways. He referred to a code which had been anonymously distributed upon the benches and throughout the State, saying it seemed to him simply an emasculated copy of the code he was about to present. At any rate, in view of the fact that a committee has been working to prepare a proper code, such distribution struck him as being an irregular and unusual procedure. Dr. Cotting then began to read the committee code by sections, awaiting remarks upon or objections to each in turn. Remarks and objections followed in such fast and furious fashion that reproduction of them in our report would be neither practicable nor reasonable. But for the sensible ruling of the president one hilarious councilor would have turned the whole discussion into an unseemly farce. Another councilor called for an amendment which would recognize female practitioners; a third objected to the number of adjectives, etc., etc. Finally, the criticisms and objections, which were thoughtful, serious, and sensible, accumulated so rapidly, indeed before a single page of the new code had been read, and so many suggestions for a different preparation of the code were offered, that it was voted impossible to consider the code at the present time. It was therefore by vote referred to the committee, who were instructed to report at the councilor's meeting in February next.

Dr. Pineo then moved that the committee should be increased by two additional members, and that these two should be of those who object to the code as presented by Dr. Cotting.

The meeting voted on this motion in the affirmative, and accordingly the chair appointed Drs. Henry J. Bigelow and John P. Reynolds to serve on the committee.

During this multitude of interruptions, Dr. Cotting, far from being annoyed and in spite of the careful and protracted work which he and the committee have already expended upon the code, remained not only unmoved, but expressed his hearty willingness to do the entire work over again, and more if need be.



Dr. Lyman, president-elect, was then presented to the meeting, and made a few timely remarks.

As the meeting was about to adjourn, Dr. Adams, on behalf of the South Middlesex District, presented a communication which unexpectedly opened the woman question. Briefly, it asked the interest of the society in this question. It also stated that the said society had addressed to physicians throughout the State questions, the replies to which, where made, showed the animus of the respondents in the matter of recognition of female practitioners. Sixty per cent. replied. Of these, seventy-one per cent. are in favor of some form of recognition of medical women.

Dr. Bigelow said it should not be inferred from these statistics that a large proportion of those who failed to respond—to wit, forty per cent.—were necessarily in favor of this movement. On the contrary, those interested in it would be likely to respond, and the failure of any to do so was evidence that they were indifferent or opposed to it.

On account of the lateness of the hour the committee begged that the request of their society be referred to a committee of five. This was done, Drs. Hodgdon, Williams, Hosmer, Francis, and Mackie being appointed. The meeting then adjourned to the refreshment room below.

On Wednesday, at nine o'clock A. M., was held the annual meeting of the society in Lowell Institute Hall, President Hon. William Cogswell, M. D., in the chair. The meeting was opened by the reports of the recording secretary and treasurer already mentioned in our record of the councilors' meeting on the previous evening.

The reports being disposed of, Dr. C. J. Blake, on behalf of the State Board of Education, asked the interest of the society in a project for the benefit of the deaf mutes of Massachusetts. The Board of Education proposes to send throughout the State a series of questions concerning deaf mutes, namely, as to their address, age, whether they have ever been taught, and whether of sound mind. The deaf-mute schools in Warren Street, Boston, and in the town of Northampton, conducted on the Graham Bell method, have proved so successful and have accomplished so much good that it is a necessity to increase the number of pupils. Dr. Blake asked for the earnest interest of the Fellows in the papers about to be distributed.

Papers on A Case of Strangulated Hernia, with Remarks, by Dr. C. N. Chamberlain, of Lawrence; on Early Symptoms of Hip Disease, by Dr. Edward H. Bradford, of Boston; and on Filth and Typhoid Fever, by Dr. Samuel W. Fletcher, of Pepperell, were then read by their authors. They were of marked interest, but elicited no discussion. It may be said here that all the papers read during the two days will eventually be published in this journal.

Dr. E. Wigglesworth was introduced, and offered a resolution to the effect that whereas the metric system is simple, uniform, international, and permanent, therefore Resolved, that the society express its cordial approbation of the system, with the hope that all physicians may employ it in their teachings, writings, and practice, and that in all communications the metric system may be used.

Dr. J. R. Chadwick then earnestly presented the claims of the Boston Med-

ical Library. The library now possesses eight thousand volumes for reference, and about five thousand pamphlets. In size, as compared with all other medical libraries, it already occupies the sixth place, and has a reading-room with one hundred and twenty journals. The committee has recently raised eight thousand dollars; has purchased a house centrally located, and to be a medical centre; will have a fine hall accommodating one hundred and fifty to two hundred persons; above it a reading-room. Duplicate copies of all books, so far as possible, are being and to be collected, and the hope and intention is to establish branch libraries in various parts of the State. The interest and aid of all the Fellows was requested.

Dr. Clapp of the State Society of Rhode Island, Dr. Barbour of the Connecticut State Society, Dr. Gardner of Exeter, and Dr. Graves from the New Hampshire State Society were introduced to the meeting. The president presented Dr. Spofford, of Groveland, now in his ninety-first year, and a member of the society as early as 1818. Each gentleman made a few remarks.

Dr. G. C. Shattuck, chairman of committee on publication, then explained the object of the Shattuck fund in publishing papers read before the society. Since these papers do not contain the fullest originality a vote had been passed, authorizing the committee on publication to offer a prize of two hundred dollars to the Fellow who previous to April 15th of each year will present the best essay containing original experimental investigation, scientific experiment, or chemical research. Invitations were therefore issued; the papers to be sent to the chairman. Four essays had been received. Each one of them, if alone, would deserve the prize. In the difficulty of making a choice the papers had been referred to two experts, who decided in favor of the essay entitled *Identification of the Human Skeleton: A Medico-Legal Paper*. Dr. Shattuck then opened the sealed envelope containing the heretofore unknown name of the author, and found that the successful competitor was Dr. Thomas Dwight, of Boston.

A recess of fifteen minutes was announced, at the close of which, at twelve o'clock, Dr. Francis Minot, of Boston, was introduced as the orator. Dr. Minot then delivered the eloquent address which was published in the *JOURNAL* for June 13th.

Meanwhile, most generous preparations for the annual dinner were being made in Music Hall, and precisely at one o'clock, the hour appointed, the society and invited guests proceeded by private entrance from Lowell Institute to Music Hall, and without confusion or delay took their seats at the tables, which occupied the entire platform and the whole of the great floor of the hall. The invited guests and officers of the society sat at the platform tables. During the seating of the Fellows, and at intervals throughout the afternoon, the Germania orchestra, which was stationed in the balcony, enlivened the occasion by well-chosen music. Grace having been said by the Rev. M. J. Savage, the well-prepared repast was attacked with zest. Stomachs being satisfied and the modern calumet of good-fellowship distributed, Dr. Peter Pineo, of Hyannis, anniversary chairman, presented to the company the first course of the intellectual banquet. As chairman of this occasion Dr. Pineo deserves a kindly word for the promptness and ease with which he fulfilled the duties of his office, and for the exceeding good taste of his toasts.



Our limited space, of course, will not admit even the briefest synopsis of the speeches which were made at this dinner. Upon concluding his remarks Dr. Pineo introduced the retiring president, Dr. Cogswell, who spoke briefly and pertinently.

The next sentiment was to the honor of the newly elected president of the society, and Dr. George H. Lyman responded, saying that he felt himself unequal to any position which calls for a speech. But if unable to make an elaborate speech, any man must be insensible to ordinary emotion who would fail to recognize and acknowledge his pride in being elected by this society to preside over its deliberations. It now lacks but a trifle of one hundred years since this society was chartered in the public interest to promote the health and welfare of the community, and we may well take pride in its record. Without going beyond the past few years we may point to the institution of the State Board of Health, to prevent disease, etc. ; to the new law for coroners, to assist by detection of crime in providing for public safety ; to our service in hospitals, dispensaries, and public institutions, which provide for the gratuitous care of more than twenty-five per cent. of our population, in proof that we have been loyal to our charter.

While, as I believe, the intelligence of the community recognizes all this, there is still a class which is fond, for purposes of its own, of charging us with being illiberal, narrow-minded, and exclusive. On the contrary, we claim to be the most liberal of professions. It is only the illiberal and exclusive which we discard from association with us. We do not allow any exclusive dogma ; our only tests, and the only ones required by our charter, are morals and education.

As a society, we care not whether a man considers a drop or a gallon to be the legitimate dose of any given remedy ; that is always recognized to be a matter of private judgment, of individual experience, with which we have no right to interfere. We pride ourselves upon a generous conservatism, which does not hinder true progress. We gladly welcome everything new, but only when proved to be true, for experience reminds us of the many startling novelties which were to revolutionize medicine, which, when stripped of their wild pretension, have been consigned to the subordinate place to which their merits, more or less, as may be, entitle them.

Let us then, Mr. Chairman and gentlemen, never forget that our only claim to existence is the good of the public, and that our influence upon that public will be just that to which our own conduct as individuals, earnest, honest, and true in their service, may entitle us.

The orator of the day, Dr. Francis Minot, replied briefly to the third toast, The Commonwealth and the Medical Department. The next toast introduced Surgeon-General W. J. Dale, who was warmly received. In a few words he referred to the support which during the civil war he had received from the profession in the State, and hoped at a future day to prepare a tribute to the medical men who did their country service during the great conflict.

The next sentiment, to Theology and Medicine, called forth a humorous, witty, and sensible response from the Rev. M. J. Savage, whose neatest hit was his apparently serious remark that he seldom had opportunity to preach

to doctors, for they were busy men, and *people were peculiarly liable to be sick on Sunday.*

Dr. J. B. S. Jackson replied to a toast to The Faithful Searcher after Truth, referring to his long experience as a pathologist.

Dr. John M. Woodworth, surgeon-general of the United States Marine Hospital service, next responded to a sentiment which complimented that service. He alluded in a few words to the benefit which he believed would result to the marine service from the operation of the national quarantine act.

The Hon. Dr. Hingston, ex-mayor of Montreal, was greeted with great cordiality, and in responding to a sentiment in his honor he complimented in an exceedingly happy manner the modesty, skill, and hospitality of the Boston physician.

A toast to Barnstable County elicited from the Hon. J. B. D. Cogswell interesting remarks and anecdotes relative to the early physicians of his county.

A sentiment to the legal profession brought a ringing, stirring response from Chas. W. Clifford, Esq., of New Bedford.

The Hon. A. W. Beard, collector of the port of Boston, was next called upon, and by way of illustration of the expectant treatment, expressed the sensible wish that Congress would give up attempting quack remedies, and let the country get well in a natural way.

The chairman then made a loving and respectful allusion to the venerable Dr. Jacob Bigelow, now confined to his chamber. To this sentiment there was an appropriate musical response from the orchestra. The company then separated (at four and a half P. M.), well pleased with the whole affair.



## TWENTY-NINTH ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION.<sup>1</sup>

### PROCEEDINGS OF SECTIONS.

SECTION I., Practical Medicine, Materia Medica, and Psychology. Chairman, Prof. A. M. Loomis, New York; secretary, Dr. J. V. Shoemaker, Philadelphia.

First day. A paper on Ringworm in Public Institutions, by Dr. J. V. Shoemaker, referred to the contagium of *tinea circinata*, and reported experiments establishing, by inoculation, the proof of the existence of an identical disorder among the lower animals, especially cats, from whom it may be communicated to man. Treatment by isolation, absolute cleanliness, and parasiticide applications, was insisted upon.

Dr. F. H. Davis, of Chicago, read a paper on Pulmonary Tuberculosis, which, in conjunction with the discussion which followed, well illustrated the irreconcilable nature of the several prevailing notions of the pathology and the prognosis of the affection.

Dr. C. W. Glasgow, of St. Louis, exhibited a specimen of fibrinous cast of the bronchial tubes from a case of plastic bronchitis. The chairman remarked that such cases are comparatively rare, and those that he had observed showed

<sup>1</sup> Concluded from page 786.



a decided phthisical tendency, and ultimately they all died of pulmonary consumption. Dr. Glasgow was requested to present the subsequent progress of the case at the next meeting.

Second day. The paper of Dr. George M. Beard, of New York, on the Electrical Treatment of Impotence and Spermatorrhœa recommended the introduction of a rheophore into the urethra and the application of the mild constant current, sittings not to continue longer than five minutes. In the subsequent discussion, a preference was shown for general and hygienic treatment, local interference being strongly deprecated in ordinary cases.

The paper of Dr. J. J. Caldwell, of Baltimore, on The Neuroses of the Pneumogastric and Sympathetic, was read by Dr. Evans of that city. It referred to certain reflex symptoms produced by tumors pressing upon the nerves in their course, and other sources of irritation. It was referred to a sub-committee for examination.

Third day. Dr. Bulkley, of New York, not having furnished the paper On the Use of the Solid Rubber Bandage in the Treatment of Eczema and Ulcus of the Legs, as announced, informal remarks were made, advocating this treatment, by Dr. H. A. Martin, of Boston, and others.

Dr. Thomas F. Rochester read the history of a case, and exhibited the specimen, of separation of the ileum, with spontaneous occlusion of the divided extremities. The patient was sixty-five years of age, and life was sustained for several weeks. The ileum was found to be completely occluded, and death was preceded by symptoms of intussusception. The paper was referred to the committee of publication with a request that a cut of the specimen accompany it in the Transactions.

A case of goitre successfully treated by subcutaneous injection of ergot was reported by Dr. C. N. Palmer, of Lockport, N. Y. The pathological character of the growth was not clearly ascertained, but it was of large size. One injection only was made. The patient was exhibited to the section with no vestige of the tumor remaining. Drs. T. F. Rochester, of Buffalo, W. R. D. Blackwood and M. O'Hara, of Philadelphia, also reported similar cases cured or greatly benefited by injections of ergot.

Dr. E. Cutter, of Boston, having on the preceding evening delivered a most interesting lecture, illustrated by the camera, on the Morphology of the Blood in Syphilis, his paper, after discussion, was referred to a sub-committee for examination. Dr. Cutter made his observations on fresh syphilitic blood, and declares that in such blood changes occur by which it can be recognized microscopically. The white blood corpuscle becomes enlarged, and contains new features which are considered to be low forms of organic life.

Dr. N. S. Davis, of Chicago, having been requested at the last meeting to continue his reports upon Meteorology, etc., reported progress, and promised a full report at the next meeting. He offered a resolution, which was adopted, ordering the appointment of a committee to consider the recommendations contained in the annual address of the chairman in regard to the establishment of sanatoria, and the utilization of the mineral springs of the United States.

Dr. Charles Denison, of Colorado, was requested to furnish for the next

meeting a further report on the influence of climate in the treatment of consumption from observations made in Denver City.

Section II., Obstetrics and Diseases of Women and Children. Chairman, Dr. E. W. Jencks, of Detroit; secretary, Dr. H. O. Marcy, of Cambridge, Mass.

First day. Dr. Theophilus Parvin was, on motion, allowed all the time necessary for reading his paper on Ovotomy. This essay goes thoroughly into the history of Cæsarean section, and discusses its value with especial view to comparison with the operation of gastro-elytrotomy recommended by Dr. Thomas, of New York. He arrives at the conclusion that in cases of labor at term in contracted pelves where a choice of these two operations only remains, the operation by Cæsarean section is to be preferred. This paper was of great interest, and was highly praised in the discussion. In collecting the extensive bibliography of the subject the library of the surgeon-general's office at Washington was of great assistance.

The conclusions of the paper were generally sustained in the succeeding debate, in which Drs. Miller of Chicago, Storer of Newport, White of Buffalo, Alibert H. Smith of Philadelphia, Jencks of Detroit, and others participated.

Second day. Dr. Horatio R. Storer, of Rhode Island, read a paper on The frequently Gynæcological Origin of Inherited Forms of Strumous Disease, and the Consequent Indications for Treatment; in which he laid down the propositions that struma predisposes to constitutional infection from syphilis, and what passes for struma is often the remote outcome of syphilis. The more we try to remove syphilis the greater chance is afforded of getting rid of struma. He urged greater care in treating the primary lesion, and called for preventive legislation to limit the spread of syphilis.

Dr. T. A. Reamy, of Ohio, read a report of a case of Hour-Glass Contraction of the Uterus prior to Expulsion of the Child.

A new clamp for perineorrhaphy was exhibited by S. W. W. Munsen, of New York; the peculiarity being that the "quills" are made of hard rubber containing three or four transverse perforations for the passage of the silver wire. Small posts project from one side of the quill at the level of each aperture, around which the ends of the wire are fastened by two or three turns. The advantages over the old shot fastening are evident. The sutures can be loosened or tightened without trouble, as the posts never roll over into the tissues. The contrivance met with general approval.

Third day. The paper of Dr. George J. Engelmann, of St. Louis, entitled Battey's Operation for Extirpation of the Ovaries, was not restricted to the consideration of normal ovariectomy, but also quoted cases of cystic and other organic disease. The conclusions were based on forty-one cases, three of which were his own. The vaginal operation for the removal of the ovaries was condemned as being more delicate and difficult than ordinary ovariectomy, and more dangerous according to the statistics. The frequent failure of the vaginal method was thought to be chiefly attributable to the piecemeal and incomplete removal of the ovaries, owing to a pathological condition of the pelvic organs, the disease very frequently being cystic, with many adhesions to



the neighboring structures. Thirty-five cases of this operation have been reported, eight only of which are marked cured; although seventy-one per cent. recovered, many are made worse by it. The danger of the disorder appears to bear no relation whatever to the magnitude and severity of the operation designed for its relief. In average cases the dangers of Battey's operation are greater than in ordinary ovariectomy. The removal of a unilocular cyst, which the surgeon is often able to accomplish without introducing his hand into the abdominal cavity, is a much simpler and safer operation. From the fact that the friction of a large cyst against the peritonæum renders it less sensitive and less liable to inflammation after operation, and also from the fact that in the usual operation for ovariectomy the pedicle can be fastened in the womb, the lecturer was led to advocate this operation in preference to the vaginal incision.

Dr. Trenholme, of Montreal, had operated upon two cases for the removal of normal ovaries, and thought that he had originated the operation until he had subsequently heard of Battey's cases. In 1874 he had a case of dysmenorrhœa in a woman thirty-five years of age, whose only hope for relief was the menopause. As health was impaired and life in danger, he resolved to remove the ovaries and bring on cessation of the menses. He accordingly removed both of these organs, and in twenty-six days she had perfectly recovered, and was able to go on a journey of one hundred and eighty miles. She occasionally had a slight discharge of blood. She is now well, and studying medicine in Chicago. The second case was one of a displaced ovary, which was enlarged and exquisitely sensitive. This was removed per vaginam, and the patient became entirely well. He prefers the vaginal operation when it can be performed, as the pelvic portion of the peritonæum seems less sensitive.

Dr. Rosebrough, of Canada, reported one case.

The paper of Dr. Levi F. Warner, of Boston, on the Connection of the Hepatic Functions with Uterine Hyperæmias, Fluxions, Congestions, and Inflammations, was read by Dr. Storer, of Newport. It was intended to counteract the tendency to treat uterine disorders solely by local applications, and showed the relationship between functional disorders of the liver and certain uterine conditions, which are susceptible of relief by the removal of the predisposing cause without any local treatment. During the subsequent discussion the position assumed by the author met with general approval, and Dr. Marcy, of Cambridge, protested against the practice that obtains at many medical colleges of graduating men at once into specialties without first making them general practitioners.

Dr. Marcy exhibited a new uterine probe, which is made by Codman & Shurtleff, of Boston, and called an indicator. It is of rubber, and contains in its interior a double watch-spring, which is so arranged as to be ordinarily straight, but if one end should be bent the other is curved in the opposite direction. This is designed to show the extent and direction of any curve in the uterine canal while the sound is still in position.

Dr. John C. Irish presented a report of Fifteen Cases of Extirpation of the Uterus by Laparotomy, in the practice of Dr. W. Burnham, of Lowell,

Mass. The operation was performed for the removal of large intra-mural fibroid growths. The percentage of success in legitimate cases was declared to be 21.5 per cent. Leaving out unfavorable subjects, when it was a last resort, the operation was followed by 28.6 per cent. of recoveries.

Dr. Storer said that he had performed this operation in seven cases, with two recoveries. He regarded the operation in such instances as one of necessity and not of election.

The paper containing a Digest of Fifty Uterine Fibroids treated by Electrolysis, by Dr. E. Cutter, of Boston, and Dr. Gilman Kimball, of Lowell, was not presented. Dr. Cutter announced that it would appear in the *American Journal of the Medical Sciences* for July, 1878. He was willing to answer any questions on the subject, but was not able to read the abstract as he had intended. In August, 1871, the first case of the series was operated upon by Drs. Cutter and Kimball, and was cured by three applications. In all there had been fifty-four cases of their own, four in the practice of friends; of these, the total mortality was five patients. In thirty-two the tumor was diminished and the patient relieved; in four the tumor entirely disappeared. Fistulous openings, where the needles were introduced, remained in two cases. In the great majority of the cases the growth was arrested; in about one third the tumor was materially reduced. The application was made by poles thrust into the tumor through the abdominal wall. Dr. Cutter devised a bayonet-shaped probe with a strong handle, by which it could be introduced into a firm growth. The current was continuous, mild, and of low intensity, the ordinary time of application being from five to ten minutes, never over fifteen. The first sitting should be not longer than three minutes. The operation is a serious one, and the patient should remain in bed for several days subsequently. One of his fatal cases was caused by the woman getting out of bed on the second day, when she caught cold. The operation must by no means be undertaken at the physician's office. No symptoms of shock are noticed when an anæsthetic is used, and it would not be justifiable to operate without using ether. The bladder must be evacuated by the catheter before introducing the needles.

Dr. G. M. Beard, of New York, in discussing the question, favored mild currents and short sittings. He recommended that the negative pole only should be inserted into the growth, the other being applied to the uterus by a sponge in the vagina, or applied to the surface of the abdomen. Dr. Mussey, of Ohio, had good results from applying the negative pole in the vagina and the positive to the abdomen over the tumor.

Dr. Cutter said that in his cases he had used a battery of rather large plates, the zinc in all the cells being connected, and the carbons likewise, so as to obtain quantity and not intensity. His friend Dr. Purse, of New York, had used the same instrument, and had entirely removed by its aid what was apparently a large tumor. He recommends this method as a substitute for all medical treatment of these cases.

Section III., Surgery and Anatomy. Chairman, Dr. H. H. Smith, Philadelphia; secretary, Dr. E. T. Easley, Arkansas.

First day. After the organization of the section, Dr. L. Howe, of Buffalo,



exhibited a case of blepharoplasty for the relief of a contracting cicatrix of the upper eyelid, resulting from a burn. A piece of skin (two and three quarters by one and a quarter inches) was dissected from the arm of the patient, a young woman, and applied to fill up the gap produced by an incision and bringing the tarsal edges together. The operation was performed three months before. The graft did not slough, and the wound was healed at the end of two weeks. A great improvement in the appearance of the patient was evident.

Dr. Charles F. Gay read a paper on a case of excision of the diaphysis of the tibia, and Dr. S. H. Weeks, of Portland, Maine, presented an article on Septicæmia following Resection of Bones.

Considerable discussion followed in regard to the meaning of the term pyæmia. Dr. Woodward, in referring to the author's definitions, inquired whether they were based on personal observation; he had seen blood-poisoning without the existence of pus, but had never, himself, seen pus in the blood or encountered any one who had seen it.

Dr. Henry A. Martin read a description of his operation for the performance of tracheotomy without the use of tubes. He advocates, after ordinary incision has been made into the trachea, the insertion of a silk thread through the tissue on each side about one eighth of an inch from the edges of the wound, the ends being tied so as to form a loop on each side of the neck. Through these loops, which should not be tied too tight or they will cut through, the end of a long piece of adhesive plaster is passed and fastened. Very gentle traction is made to open the wound slightly, and the plaster is carried around the side of the neck, crossing on the back. The stitches will stay in position from two to three weeks if undisturbed. The ordinary precautions as to warmth and moisture must be observed after the operation. He reported nine cases in which it was performed, and highly recommended the operation.

The Identity of Hospital Gangrene and Diphtheria was the title of an exhaustive paper by Dr. John T. Carpenter, of Pennsylvania. Its conclusions are indicated in the title.

A paper on Perityphlitic Abscess, by Dr. D. M. Clay, was read by title, the writer being absent.

Dr. Sayre, of New York, read an abstract of one hundred and twenty-five cases of spondylitis treated with the plaster-of-Paris jacket and suspension, recent and long-standing, and ranging from four years of age to fifty-three. The author requested permission to complete the paper and present it at the next meeting. He observed that if after application the jacket should get a little loose, it may be cut down the middle in front, and a portion trimmed off, the edges of the under-shirt being turned over in front and holes made through the border for lacing.

Dr. Post presented a short address on Plastic Surgery, which was followed by a volunteer paper by Dr. Moore, of Rochester, on the Prevention of Septicæmia in Surgery; the theory being that if an absorbing surface is not furnished with decomposing fluids septicæmia cannot occur. He reported a case of injury of the knee, in which free discharge was secured by the introduction of drainage tubes, in anticipation of the appearance of the purulent fluids.

Second day. Dr. Henry H. Smith, of Philadelphia, gave a demonstration, from preparations, of certain points in the pathology of the bones, especially tubercular disease, which attracted much attention. The Extirpation of the Thyroid Gland was the title of a paper, illustrated by a specimen presented, by Dr. Julius F. Miner, of Buffalo. He did not declare positively that the entire gland had been removed in the case reported. In answer to a question, he stated that the vessels were tied after division.

Dr. B. A. Watson, of Jersey City, read a paper on Disease Germs, considering their origin, nature, and relation to wounds. The Process and Repair of Wounds with and without Antiseptic Treatment was the subject presented by Dr. Frederick Hyde, of Cortland, New York. This was followed by a paper by Dr. Robert Burns, of Philadelphia, giving the history of a case illustrating conservative surgery in compound fractures. The patient, a laboring man, sustained a compound fracture of both the humerus and ulna, the bones being broken in four places and protruding. A wire splint was used and an antiseptic evaporating lotion with excellent effect, the patient regaining the use of the arm.

Third day. Dr. Frank H. Hamilton, of New York, read a paper recommending exsection of the metatarso-phalangeal articulation in valgus of the great toe.

On motion the regular order of business was suspended to allow Dr. Sayre to exhibit a case of Pott's disease which had been treated by the plaster jacket.

The following was then offered by Dr. Gunn, of Chicago: —

*Whereas*, This section having expressed an opinion upon the results of fracture of long bones, and

*Whereas*, In general convention a member has asked and been accorded the privilege of recording his protesting vote, therefore

*Resolved*, That this section reaffirms its opinion that shortening in cases of fracture of the long bones is the rule in practice regardless of any means of treatment now in use.

After a warm discussion it was adopted.

Fractures near the Wrist Joint were considered by Dr. John H. Packard, of Philadelphia, with special reference to their treatment. He concluded that fractures of the lower end of the radius are produced by leverage, comminution resulting from a driving in of the upper fragment into the lower, and the posterior part of the lower fragment being always involved in the comminution. He reviewed the testimony of experiments, dissections, and clinical observation in endeavoring to establish the exact character of the lesions, and failed to agree with the view of Dr. Barton. He had never seen a true Barton fracture. The principles of treatment vary somewhat with each case; routine treatment by any one method is deprecated; the principles are: (1) thorough reduction; (2) support of fragments; (3) early passive motion; (4) early freedom of hand. Dr. E. M. Moore, of Rochester, opposed the views expressed by Dr. Packard, and said that splints should be abandoned in treating this fracture, and adhesive plaster used.

Dr. Theodore A. McGraw, of Michigan, read a paper on the Pathology, Diagnosis, and Treatment of Cancer. Dr. Henry O. Marcy, of Cambridge,



presented an article illustrating the use of carbolized ligatures in the operation for hernia.

Section IV., Medical Jurisprudence, Chemistry, and Psychology. Chairman, Dr. W. B. Kempster, Wisconsin; secretary, Dr. W. Compton, Michigan.

First day. The chairman announced that he had not received any papers, but that he had prepared one, which he would present the following day.

Second day. The chairman read a paper On the Pathological States found in the Motor Centres in Cases of General Paresis. These conditions had been rare in his experience as superintendent of the Mississippi State Lunatic Asylum, presenting themselves most frequently among agriculturalists. The observations seemed to favor the theory of the localization of motor centres in the convolutions. Dr. Gray, of Utica, observed that this general paresis had been considered rare, because it had generally escaped recognition prior to 1843, but that now it is quite common. It is not restricted to either sex.

Resolutions defining the legal status of the insane, and advocating restraint under proper supervision, were adopted, and referred to the general session with recommendation for adoption.

Third day. Theodore Deecke, of the Utica Insane Asylum, read a paper by invitation on the Microscopic Study of Brain Disease. Specimens and micro-photographs prepared by the author and Dr. Gray were exhibited and attracted general attention.

Section V., State Medicine and Public Hygiene. Chairman, Prof. J. L. Cabell, University of Virginia; secretary, Dr. A. N. Bell, of New York.

First day. Professor Henry I. Bowditch read a paper of great interest, containing Studies of an Epidemic of Diphtheria which prevailed at Ferrisburg (adjacent to Vergennes), Vermont, during the summer of 1877. The lecture was illustrated by a large map of the infected locality, showing the homesteads attacked. The study was made during a summer vacation near Lake Champlain, and is a valuable contribution to the natural history of the disease. No abstract can do justice to this paper, but the sum total of the suggestions is given by the lecturer as follows: "An epidemic or a single case of diphtheria must be met very much as you would meet a case of small-pox or scarlatina, and we must try by every means in our power to limit its influence and prevent its spread as an epidemic. I do not mean to intimate that I think diphtheria is equally contagious with small-pox, but as there is a strong analogy between them like means must be used to prevent their spread."

Remarks were made by Drs. Bell and Jacobi, of New York, and others. Dr. Hollister had traced cases of diphtheria in Chicago to defective sewerage. In reply to a question, Professor Bowditch stated that in diphtheria the general disorder exists before the appearance of the false membrane. His impression is that croup and diphtheria are not identical; croup is an accident in diphtheria.

Dr. E. Seguin, of New York, read a paper advocating the Intervention of Physicians in Education. The paper was commended and its arguments emphatically indorsed by the section, and, on motion, Dr. Frank Hamilton was requested to present an abstract of the paper to the general session on the following morning.

Second day. Dr. Thomas M. Stevens, of Indiana, read a communication in reply to the circular of the chairman of the Section on Defective Drainage and Water Supply, by Drs. T. M. Stevens, John W. Trask, and A. M. Carrigan. It was stated that a very large proportion of diseases in Indiana is due to defective drainage. He recommends for the purification of drinking water that cisterns should be constructed containing a bee-hive reservoir, made of soft, porous brick, and capable of holding from two to six barrels of water. This would filter all water before drinking, and largely prevent disease arising from contamination with organic matter.

A paper was read from Dr. Trader, of Missouri, in which epidemics of dysentery and other bowel affections were traced to water contamination by ferro-carboniferous deposits and other metallic salts, the water possibly containing also decaying animal and vegetable substances. Properly filtered cistern water grants immunity from disorders arising from these organic deleterious compounds. Damp cellars are apparently as prolific in the production of malarial disorder as marshy lands. He believed that a good system of subterraneous drainage in his neighborhood would effectually stamp out all malarious fevers. Dr. Carrigan stated that he had observed that in Arkansas the people who use cistern water have better health than those who use well water.

Third day. Dr. Hamilton, being requested to prepare a paper on the practical suggestions contained in Dr. E. Seguin's paper, for the next meeting, declined, as he did not expect to be in attendance. On motion, a committee consisting of Drs. R. J. O'Sullivan, of New York, and W. Clendenin, of Cincinnati, was appointed to present such a report at the time specified.

Dr. Bell, of New York, called attention to the bad hygienic condition and the poor provisions for the disposal of sewage in villages and small towns.

The chairman read a paper by Dr. J. R. Black, of Ohio, on *The Bearings of Hygiene on Therapeutics*, which, after discussion, was referred for publication. Dr. O'Sullivan made some remarks on the bad sanitary conditions of churches, particularly in certain Catholic churches in New York, where one congregation rapidly succeeds another until the atmosphere is loaded with organic matter and becomes absolutely dangerous to the public health.

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### GRAVE-ROBBING.

THE accidental discovery of the body of a gentleman, the son of a former president of the United States, in the dissecting room of a Cincinnati Medical College, the same having been ceremoniously deposited by the bereaved friends in the family tomb a few days previously, has occasioned great excitement among the inhabitants of Cincinnati, — an excitement which has had its reflex among the newspaper-reading public throughout the country.

“Heroic doses of the Ohio Penitentiary” are recommended by one of our most esteemed daily contemporaries to the good people of Cincinnati as “the best treatment which can be prescribed for the faculty of the Ohio Medical



College," and an attempt is apparently being made to administer the prescription.

These outrages — for as such they must be regarded — are fortunately very rare, and with proper laws facilitating the availability of certain sources of material, and discountenancing the pernicious multiplication of medical schools, they should and would never occur. There are undoubtedly difficulties about framing and passing such laws, but we cannot think these to be insurmountable ; although we remember that some of these obstacles were so felt in England that the operations of the resurrectionists, who pursued their calling with a zeal and system never known in this country, were to a certain extent winked at until the passage of the anatomy act.

According to the law in Ohio, and we believe in most of the States where a law exists, any person having an unclaimed body (for example, almshouses, etc.) may deliver the same to medical colleges. The use of the word *may*, the introduction of many saving clauses, and the fact that any man is made a friend to the body, seriously interfere with the operation of the law, and give rise to very shabby and petty intrigues.

But we can scarcely conceive any change in the law which would meet the necessities of the plenteous medical schools of some parts of the country. There are in Ohio, a State with a population of two million six hundred thousand, no less than seven medical colleges, three of which are in Cincinnati, where a regular medical education is supposed to be given, and we know not how many others offering educations more or less peculiar. The question of material for dissection is simply one of supply and demand. When we recall Sir Astley Cooper's testimony before a committee of the House of Commons, namely, "The law does not prevent our obtaining the body of any individual if we think proper, for there is no person, let his situation in life be what it may, whom if I were disposed to dissect I could not obtain," and when we remember that there are instances of persons who have sold themselves during life for dissection after death, it is evident that for a sufficient inducement a certain amount of material will be always forthcoming. It is therefore on every account to be desired that the law should judiciously direct this matter. It is perhaps natural that an excited state of feeling, such as that lately existing in Cincinnati, should result in extravagances ; this has always been the case since the famous Doctors' Mob in New York city about 1788, when the imported specimens in the College Museum were destroyed, and it was for some time only at considerable risk that any one known as a doctor could remain in the city. It was on this occasion, too, that some of the offended rioters attacked, and were with difficulty restrained from pulling down the house of the British consul, Sir John Temple, the name of "Sir John" being mistaken for "Surgeon."

The very people who protest that human material should be replaced by models and mannikins would be the first when ill to offer a premium for an exact knowledge of anatomy and physiology by seeking the services of the physician or surgeon who possessed such.

## MEDICAL NOTES.

—The annual meeting of the state society, as will be seen by our report, was unusually successful, the attendance being large, and more interest than usual being taken in the papers read. The medico-legal feature of the meeting was admirable, bringing many of the legal profession not only as listeners but as participators in the exercises. The councilor's meeting was looked forward to with considerable interest. A lively debate seemed probable on the presentation of the new code of ethics, but it was found expedient to refer the matter back to the committee. There was little or no debate on the admission of women, this matter also being left to a committee, to report at some future time. The dinner was as attractive a feature as usual. Among the speakers may be noticed Dr. Hingston, of Montreal, whose remarks were received with as great favor as those of any other speaker, and Dr. Woodworth of Washington, who alluded to the question of national quarantine, in which very valuable work he is now engaged. We may mention one criticism, — the noise made by members in leaving the hall during the reading of papers. We overheard the remark that "doctors' boots always squeak." The microphonic walls of the Institute certainly illustrated forcibly this peculiar feature of a Bay State manufacture.

—Professor Volkmann has been appointed rector of the University of Halle for the coming year. — Professor von Bischoff has resigned his chair and has been made a Geheim Rath. — Donné, the well-known Parisian microscopist, died in April.

—According to Humboldt, the Indians of Peru, by means of their scent, can perceive the approach of a stranger, while yet far distant. It is said too, that the Arabs can recognize the smell of a fire thirty or forty miles away.

—A reviewer of Virchow's *Freedom of Science in the Modern State* asks: "Does not Virchow exceed the limit of 'objective' knowledge when he says (page 27 of the translation), 'We have ascertained that diphtheria is a disease caused by particular organisms'?"

—A catalogue of the library of Claude Bernard has already been published, and the public sale takes place this week.

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LETTER FROM BUFFALO.

MR. EDITOR, — The session of the American Medical Association that has just been brought to a close in this city, if not the most exciting or important in its career, was at least a thoroughly enjoyable one to those who were so fortunate as to be present. Politically considered the meeting was a quiet one; no radical changes were contemplated or suggested, with the exception of the erection of a new section upon ophthalmology and otology, and the proposition to consolidate the section on Medical Jurisprudence with that on State Medicine. In the presence of an unexpected emergency the association discovered that no provision existed in the code of ethics to forbid a member from teaching homœopathic students. An amendment to prevent this in future



was immediately proposed, but in the mean time, with as good a grace as possible, the Judicial Council were reluctantly compelled to admit delegates against whom this objection had been raised.

Viewed from a scientific stand-point it may be stated that the material presented was, as a rule, chiefly of a practical character, and of unusually good quality. The prize essay, by Dr. John A. Wyeth, of New York, involved much original labor, and was highly praised by the committee. The time has nearly passed, if it ever really existed, when there was any force in the captious remark, that "the papers read before the association are generally those which have been previously rejected by the medical journals, and could not be published elsewhere." The essays presented were, in many cases, the work of well-known and specially qualified men, and the discussions brought out the opinions of men of equal standing. There is still, however, need for some such plan as was suggested by Professor Bowditch at Chicago, by which the papers might be submitted to a committee for examination *previous* to public reading, so that the time of the sections might not be wasted upon inferior and exhausting essays.

In its social aspect the meeting was an unqualified success, owing very materially to the forethought and good management of the committees on arrangements and entertainment. Dr. E. Cutter, of Boston, on Wednesday evening gave a lecture on the Morphology of the Blood in Syphilis illustrated by the Camera, which was well received. The micro-photographs of the blood that were shown upon the screen were triumphs of art, and the modest manner in which Dr. Cutter, in his matter-of-fact discourse, described the method pursued added to the charm for those who knew something of the skill and experience required to obtain such results. It was microscopy made easy, particularly as the lecturer avoided technicalities as much as possible, and described every step with perfect clearness.

Receptions were given at the house of Prof. James P. White, and at the Buffalo Club, and the visits to the academies of Fine Arts and Natural Science were much enjoyed. A novelty in the shape of a lawn party was offered to the association by Mr. Bronson P. Rumsey, and the entertainment was highly appreciated, as may be inferred from the letter of Professor Bowditch.<sup>1</sup> At night the extensive grounds surrounding the house were gayly illuminated by innumerable Chinese lanterns, which were everywhere seen shining among the trees, while colored lamps were arranged around a fountain at the end of the long terrace and on the border of a large artificial lake within the inclosure, which reflected the lights with charming effect. Colored fires were burned at intervals, brightening the winding paths among the trees, and turning the fountain into ruby and gold. The brilliant assembly, the strains of orchestral music, and the illuminated park combined to form a fairy-like scene, and to produce an effect that haunts the memory but defies description.

On Friday afternoon the members of the association and a number of ladies were invited by the profession of Erie County and a few of the citizens to visit Niagara Falls. The excursion went over the Canada Southern Railway, and in point of numbers was an overwhelming success. All who were invited se-

<sup>1</sup> See page 188 of the JOURNAL.

cured tickets, and all who had tickets went. At Niagara, after a short time spent in looking at the Falls, they partook of a grand supper at the International Hotel. The six hundred delegates brought numerous friends, most of whom returned the same night to Buffalo, but "not the six hundred." The session being over, a large number of the delegates remained a few days at the Falls, while many others went directly to their homes. They departed with many pleasant recollections of their visit, and of the hospitality and courtesy they had encountered. Seen at its best in the early summer time, I hope a visitor may be permitted to say that the sun does not rise upon a better-hearted people, nor upon a city more pleasant to the eye than Buffalo, the "Queen City" of the lake.

BUFFALO, June 9, 1878.

#### COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending June 8, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean for ten Years, '68-77.
New York.	1,093,171	434	20.64	23.42	28.71
Philadelphia.	876,118	290	17.21	18.80	21.54
Brooklyn.	549,438	183	17.32	21.51	25.50
Chicago.	460,000	87	9.95	17.83	22.39
Boston.	375,476	138	19.11	20.10	24.34
Providence.	100,000	37	19.24	18.81	19.20
Lowell.	55,798	16	14.91	19.09	22.50
Worcester.	54,937	13	12.31	14.07	22.30
Cambridge.	53,547	20	19.42	18.69	20.83
Fall River.	53,207	15	14.66	1.35	24.96
Lynn.	35,528	9	13.18	0.42	19.67
Springfield.	33,981	5	7.66	6.02	19.77
Salem.	27,140	15	28.74	0.38	21.15

#### THE METRIC SYSTEM.

At the meeting at Buffalo, June 5th, of the Section of Practical Medicine, Materia Medica, and Physiology of the American Medical Association, the following resolution was unanimously adopted:—

*Resolved*, That this section, recognizing the value of the metric system for its uniform, international, indestructible, generally applicable, convenient, simple, safe, and scientific character, hereby recommends to all physicians the use of the same in their practice and in their writings and teachings.

BOOKS AND PAMPHLETS RECEIVED.—Physics of the Infectious Diseases. By C. A. Logan, A. M., M. D. Chicago: Jansen, McClurg & Co. 1878.

Atlas of the Diseases of the Skin. By Balmanno Squire, M. B., Surgeon to the British Hospital for Diseases of the Skin. London: J. & A. Churchill. 1878.

Studies in Pathological Anatomy. By Francis Delafield, M. D. The Inflammation of the Pleura. New York: William Wood & Co.

Nervous Diseases: Their Description and Treatment. By Allan McLane Hamilton, M. D., Fellow of the New York Academy of Medicine, etc: With Fifty-Three Illustrations. Philadelphia: Henry C. Lea. 1878. (A. Williams & Co.)

The Hot Springs of Virginia.

The Twenty-Third Annual Announcement of the Pennsylvania College of Dental Surgery. Philadelphia. 1878.



# THE BOSTON MEDICAL AND SURGICAL JOURNAL.

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## LECTURES.

### ON THE NON-VENEREAL CUTANEOUS AFFECTIONS OF THE GENITALS.

A LECTURE DELIVERED AT RUSH MEDICAL COLLEGE, CHICAGO, MAY 30,  
1878.

BY JAMES NEVINS HYDE, M. D.

GENTLEMEN, — I desire to-day to consider briefly, and especially from the stand-point of ætiology, certain disorders, non-venereal in origin, which affect a special region of the body, the integument of the external genitals. Among the reasons for thus studying collectively the diseases of this region may be mentioned the circumstances which tend to impress upon it peculiar features, the characteristic mental anxiety they awaken in the patient, — an anxiety which is generally out of all proportion to the local trouble, — and the vulgar prejudice that these affections are necessarily of disgraceful origin. This last is allied to the wide-spread delusion that all chronic cutaneous disorders spring from the practices of immorality either on the part of the person or his progenitors. It is often a matter of vast importance to the welfare of the individual, the family, and society that you should be able to pronounce with confidence upon cases of this character.

In the integument and its appendages of the external genital organs we recognize all the anatomical elements found in the skin of other parts of the body, with the single exception of that modification of the epidermal cells which constitutes the nail. Often intensely congested at the moment of birth, the skin of this and the adjacent regions rapidly assumes the fresh tint, tonicity, and firmness of youth, to be succeeded by the pigmented, wrinkled, and relaxed conditions of later life and old age. In parts it is delicately fine and laxly superimposed upon subcutaneous connective tissue, as over the penis, and in other places it rests upon a cushion of fat, as upon the mons veneris. Lymphatic and blood vessels, nerves, sebaceous and sudoriparous glands, hair follicles, and contained hairs are supplied to it in abundance, and subjected to the influences which elsewhere operate to produce faulty innervation

congestion, inflammation, serous, purulent, hæmorrhagic, or plastic exudation, or the nutriment for parasites.

The function of these organs is largely, in the strict sense of the word, venereal, and such in truth are many of their diseases. I intend, however, by the term non-venereal to exclude from present consideration merely those of syphilitic or blennorrhagic origin. Looking at the others collectively we might be disposed to classify them in some such way as this: (1.) Those which exist indifferently in the genital and other regions of the body, including those which, as a rule, only when of general distribution affect the first-named locality. (2.) Those which exclusively or by preference involve the genital integument. (3.) Those which exist by preference elsewhere, but yet (in accordance with that law of exceptions for which we have ever to allow) are occasionally found in this region with and without other distribution. We might, for example, assign to the first class the exanthemata, eczema, intertrigo, and urticaria, diseases of the sebaceous and sudoriparous glands, pigmentary and vascular anomalies, and the lesions produced by scratching to relieve pruritus, — improperly named prurigo. Among those of the second class might be mentioned the scaly and incrustated forms of scrotal epithelioma called “the chimney-sweep’s cancer,” phtheiri-asis pubis, elephantiasis of the penis, clitoris, labia and scrotum, herpes pro-genitalis, and a few of the sub-varieties of the affections of the sebaceous glands. And we might find illustrations of the last class in psoriasis, lupus, keloid, and a few of the diseases occasioned by animal and vegetable parasites.

But a classification of this sort, while it might aid in recalling the relative frequency with which these disorders occur in a special locality, would possess but little practical value. For in the first class named we have evidently included much the larger number of these affections, as well as those of most common occurrence; while in the other divisions we have merely named genital species of a large family (their titles only serving to indicate their site), or those which in this connection require no consideration. The practical inference from all this is very clear. In studying the disorders of this locality we have to investigate chiefly those circumstances which here tend to modify the course and characteristics of cutaneous disease elsewhere. We shall thus have a key to the solution of most of the diagnostic, pathological, and therapeutic problems presented. Since, then, it will be impossible for me to describe a tithe of these affections in one hour, I ask you to limit your attention to the single portion of the field just indicated.

Among the most important of these modifying influences are heat, moisture, and friction; and I do not know how we can satisfactorily separate the three. For the natural temperature of the genital region is elevated by friction between contiguous tracts of integument, and



between the latter and the clothing. This fact was recently well illustrated by Dr. Sellerbecker,<sup>1</sup> who by friction induced axillary temperature in his own person from 107° to 114° F., having observed similar curious results in a female patient detected in attempts at malingering. Again, friction in the genital region produces more or less moisture, due to the stimulation of the secretion of the glands, while at the same time the effect of the elevation of temperature will largely depend upon the degree of coexisting moisture. Picture to yourselves the exuberant vegetation of a South American forest, and you will find an illustration of the potency of these great natural forces. But you will have a more homely illustration in the effects produced by the application of a common poultice. A cataplasm is valuable in proportion as it is moist and hot; any medicament it may contain plays a secondary rôle.

It is heat and moisture which supply the chief characteristics of mucous surfaces. When these surfaces cease to be normally warm and moist (for example, the envelope of a completely prolapsed uterus or of a long-exposed external hæmorrhoidal tumor) they approach in condition the outer skin. And so, *per contra*, the outer skin, subjected to heat and moisture, will exhibit such quasi-mucous surfaces as we sometimes see where the scrotum or labia come in contact with the thigh, at the peno-scrotal, scrota-perineal angles, etc.

Now, as a rule, in cutaneous diseases of the genital region the skin and its lesions present either the features distinguishable after the application of a light poultice, or those of mucous or quasi-mucous surfaces. Eczema here is, as Vérité sententiously remarked in 1875,<sup>2</sup> a "dry disease in a humid locality." Erythema is distinct; discharges are due to gland secretion; crusts infrequent, always delicate, yellowish or grayish in hue, rarely greenish-black, horny or bulky. Infiltration and œdema are common complications. Vesicles and pustules rapidly change in appearance, the moistened roof-wall speedily removing by friction with the clothing or the fingers in scratching, leaving floor relics, from which a diagnosis must be determined. Often papules form from the resorption of their contents. Yet not infrequently these persist, just as we may see typically-maturing vesico-pustules of variola upon the velum palati. Ulcers and fissures often extend to the derma, not generally of the dry and deep variety seen in eczematous fissure of the hands, for example, but fissures which are wide, moist, and discharging. Papules are small, their summits frequently-torn by the nails, or, when large, are broad, with flattened apices, rarely acuminate and projecting. The macerated epidermis, once removed, is irregularly reproduced, readily abraded or excoriated, and apt for the transudation of those acrid, sweat-containing, mucoid fluids which are characteristic of inter-

<sup>1</sup> Berliner klinische Wochenschrift, April, 1878.

<sup>2</sup> La France médicale, June 26 and July 3, 1875.

trigo. Urticarial wheals in this region are less fugacious than elsewhere, and tend to recurrence and chronicity.

Under the influence of heat and moisture, the parasite which produces ringworm of the body, the *tinea trichophytina*, often luxuriates in the genital regions, its visible effects isolated or superadded to other morbid conditions. Usually, as you know, the so-called *eczema marginatum* occurs upon the internal face of the thighs, where a peripherally-extending, elevated ring, made up of small papules or vesicles, or the sequelæ of either, incloses an unaffected centre. Hebra, Bärensprung, and others have noticed these lesions extend to the *mons veneris*, scrotum, penis, and external surface of the labia majora. I have, on several occasions, seen these itchy, scurfy rings upon the scrotal surfaces in contact with the thighs. In hot climates the same causes operate to produce the exaggerated conditions variously named Malabar and Tokelan itch, Burmese ringworm, etc. These are usually considered to be non-venereal disorders, but in one case, that of a gentleman who contracted his disease (ringworm of the scrotum and thigh) when visiting the late Centennial Exhibition in Philadelphia, the patient asserted that it had been acquired by suspicious intercourse, and I could not deny such a possibility.

Pruritus is nowhere more intensely distressing and obstinate than in the genital region. This is, of course, in large degree dependent upon the abundant supply of peripheral sensory nerves to the parts, but the severity of the attack is enhanced by friction and heat, especially the latter. Indeed, the self-suggested and self-applied remedies of most patients are intended to "cool" the affected surfaces, thus supplying us with a hint as to the appropriate therapy. The well-nigh irresistible inclination to scratch the integument is generally exaggerated at night when the body is covered with bed-clothing, and adds the wounds of the finger-nails to any preëxisting lesions. In pruritus there is really no lesion save that induced artificially, a fact frequently illustrated in practice. Thus a lady, sixty years old, exhibited to me the external genitals covered with minute, summit-torn papules, seated upon a reddened, excoriated, and weeping surface. Once effectually protected from the attacks of the fingers, the epidermis healed, but the disease was not at an end, for I had an opportunity of observing her afterward in what was a convulsive paroxysm of intense severity. She reclined upon her back, and the attendants restrained her hands from contact with the seat of the disease, but yet by the eloquent expression of her fingers as well as by her posture she indicated what a luxury it would be to bury her nails in her own flesh. The pruritus was a reflex result of one of the disorders I shall mention later. A gentleman, similarly affected, once told me he could think of no instrument so serviceable for his purposes as a steel-toothed rake. Paroxysms of this character



are usually relieved for a time by the slight serous discharge, solicited by friction of the wounded surface. The luxurious sense of relief thus afforded is dangerously allied to the sensation of sexual orgasm; and it is important for you to remember that in both sexes violent scratching of the genitals is liable to be followed by seminal or mucous discharges and the establishment of habits which are as degrading to the moral as to the physical nature.

The sensation of itching is a strongly marked subjective symptom of most cutaneous disorders in this region. Patients with herpes progenitalis often attempt to allay the burning and smarting pain by squeezing the glans penis between the palms of the two hands. In this affection, small, short-lived, and often abortive vesicles are followed by hyperæmic patches of corresponding size, crusts, excoriations, and even superficial ulcers, which readily heal when gently stimulated and protected. The contact of a congenitally tight, adherent, or redundant prepuce may be at fault here; and Dr. R. W. Taylor, of New York, and myself have relieved recurrent attacks of this sort by circumcision; but I have seen Jews, who had undergone their ritual of infancy, suffer as much as the uncircumcised.

With the friction due to clothing should be considered that arising from other mechanical contacts. Thus we find effective, in the adult, the saddle of the horse; in youth, the velocipede; in women, improperly adjusted napkins, pessaries and supporters with a vicious, extravaginal stem; in both sexes the truss, and in males the wearing of the suspensory-bag and the urinal. I have known each of the articles named to be efficient in the production of very disagreeable results. In males the constant wearing of the urinal requires that the penis and often the scrotum be habitually incased in oiled or rubber cloth. A young man with congenital malformation of the spinal cord in the lumbar region, accompanied by incontinence of urine and fæces, recently showed me large pemphigoid bullæ of the skin of the penis, with sodden and macerated walls, containing an ill-conditioned serum. Again, the opening for the penis in the ordinary suspensory-bag is often so small as to compress the organ injuriously, leading to œdema and congestion of the pendulous portion. This is a matter worthy of note, because patients with cutaneous lesions of the penis and scrotum will often apply to themselves a suspensory-bag, which aggravates the original disorder, especially if the capacity of the purse and its orifices be reduced by a lining of lint. Other injurious appliances are surgical plaster awkwardly applied in strapping the epididymis, bandages and wrappings tightly embracing penis or scrotum and secured in place by string, thread, tape, or an elastic rubber band.

Though we have not the time to-day to discuss the treatment of these affections, I should remark here that for cutaneous troubles the

female genitals are best dressed by the ordinary napkin or T-bandage, and the male by attaching a sufficiently long under-apron of muslin or other material above to the front of the under-clothing at the waist ; it is loosely gathered up below and received into the drawers. This may include a rag saturated with a lotion or spread with an ointment or material to absorb discharges, which can be burned and replaced by a fresh piece at each dressing.

The injudicious employment of topical medicaments often enhances the severity or prolongs the course of otherwise simple disorders. Symptoms of insignificant import alarm ignorant people, who attempt to "burn out" the disease with vesicating collodion, nitrate of silver, nitrate of mercury, sulphate of copper, strong solutions of bichloride of mercury, and even nitric acid. I could illustrate the action of each with a case, and should add that too often the druggist is culpable. To this category belong the toilet soaps of the cheaper kind, highly scented, but containing small particles of bone or other irritating ingredients ; and some of the toilet powders sold in the shops, adulterated with arsenic and other deleterious substances. It is the delicate and sensitive ano-genital region of the infant where the effects of these are best illustrated.

An exceptional history was recently narrated to me by my friend Dr. John Bartlett, of this city. A bridegroom of twenty-four hours was suddenly seized with painful vesiculation of the entire ano-genital region, and enormous œdema of the scrotum and penis. When the physician was summoned he found the indignant bride writing a letter to her parents, begging them to remove her forever from her unworthy husband of a day. Very close questioning of the latter elicited the fact, that, while approaching the city on his wedding tour, too modest to make use of the accommodations in the Pullman car, he had gone for a stool to the sheltered rear of an isolated way-station house. Unprovided with other material he had there applied to the anus the glossy leaves of a neighboring vine. Without question this was some variety of the rhus, probably the rhus toxicodendron, the induced eczema, in connection with the history, pointing to such a source.

Some of the ingesta may have similar local effects. Punctiform scarlet erythema, often mistaken for genital syphilides, is induced in some patients by the administration of copaiba. The sensation of itching may be occasioned by opium ; the strangury of cantharides congests the genitals in both sexes. A physician, resident of this State, recently complained that he had "the itch." On examination I found acneiform pustules involving the sebaceous glands of the pubes, and discovered, by my questions, that two months before he had been rendered insensible by a missile which struck his head. He had relieved the subsequent pain by taking potassic bromide in large doses, and when this remedy was withdrawn the eruption disappeared.



Negligence of the simple laws of cleanliness, potent for mischief everywhere, is here of great significance. The secretions of a local hyperidrosis, especially if dyed flannel be worn next the skin; the healthy urine of the infant; the decomposed urine from the fistula of the adult (left upon the skin or the clothing); feculent relics of a former stool; retained menstrual and lochial discharges; serous, purulent, and bloody evacuations from the great natural outlets of the body in this vicinity, when not removed by the sponge, are capable of inducing disease of the integument. Rarely have I seen more formidable genital ulcers than those of a young mother, nineteen years of age, who had been forbidden by a grossly ignorant midwife to cleanse the passages for two months after delivery. It should be added that the careful drying of the external genitalia of the infant after its bath is a matter of importance, as a few drops of water left in contact with the skin may give rise to much trouble.

Many of the disorders we are considering are the direct or reflex results of changes in such important neighboring organs as the rectum, bladder, uterus, ovaries, prostate, testes, etc. Hæmorrhoidal tumors may excite first anal and then genital eczema; urticaria in the child may depend upon ascarides in the rectum, and I have seen genital eczema of the adult due to the same cause. Erythema papulatum of the labia is often associated with non-specific ulceration of the collum uteri. Pregnancy may occasion the numerous small, round, dull-red papules or slightly elevated, crimson patches which the gynæcologists call follicular vulvitis. Cancer of certain of the organs named may involve the skin, or induce secondary changes in it. Surgical deformities, diseases, and operations are not to be forgotten, as erysipelas and every stage of dermatitis to gangrene may follow external urethrotomy, prostatic abscess, urinary infiltration, varicocele, hernia, fistula, exstrophy of the bladder, and prolapse of womb and bowel.

Irregular, perverted, or excessive performance of function requires mention. Here, to be healthy, physiological and not absolute rest is requisite, — rest that results from regular and temperate satisfaction of desire. Hence, sexual excesses of all kinds, onanism and pæderasty, may lie at the foundation of even so simple a disorder as herpes. Vague neuralgias, originating in this way, are often mistaken for the pain of some local disorder of the skin. By heightened color alone the skilled eye can recognize recent immoderate and often moderate use of the genital organs. I recently treated a newly-married man for psoriasis, who candidly admitted his infraction of the laws of sexual hygiene. Two abundantly scaly patches, fully three centimetres in diameter, with distinct outline, showed upon the sides of the scrotum, while a curiously regular scaly ring surmounted the reddened and puffy lip of the prepuce. Elsewhere in his person the disease was present in smaller

patches, and this was the more remarkable because in the diffuse forms of psoriasis, when patches as large as the palm of the hand are to be seen upon the body, as a rule only the punctate or guttate forms are to be distinguished upon the genitals, and these characterized by less active scale formation.

Bromidrosis, as well as the odor from the genital sebaceous glands and anus, may in some instances be associated with cutaneous disorders of these parts. It has occurred to me that some of the animal parasites for this reason avoid the genitals. The *cimex lectularius* attacks the buttocks, the belly, and the thighs; rarely the labia, the penis, and the scrotum. Alone of its industrious family the *pediculus pubis* exhibits a preference for this field. The *sarcoptes hominis*, whose inroads occasion scabies, is found upon the genital region in infants, the parasite being transferred to this locality by the hand or arm of the nurse, upon which the child rests. When discovered on the penis of the adult, it is probably due to the handling of the organ, as the difference in the modern dress of the two sexes in civilized countries permits readier access of the hand to the genitals in the male than in the female. For, in woman, the mammary region is more often the seat of scabies than are the genitals. But these accidents will soon be a matter of tradition in Chicago, as here the disease is more and more rarely encountered. Professor White, of Boston, has called attention to its progressive infrequency in his city (but eight cases were reported in 1875, among the out-patients of the Massachusetts General Hospital<sup>1</sup>); and it is my belief, based upon experience, that in Chicago, with its larger and extensively foreign population, a relative proportion of such cases could not have been collected in the same period.

Disorders of distant organs and of the general economy may excite genital pruritus and lesions. Among these are the condition of sub-oxidation of the products of digestive metamorphosis, gout, rheumatism, hysteria, gastro-intestinal and hepatic derangements, malaria, struma, Bright's disease, and, last but not least, the faulty innervation, faulty hæmatopoësis, and faulty propulsion of blood currents, which are the significant symptoms of advanced senility.

A few diseases of the skin in this region appear to have no relation to the agencies we have considered; for example, the little round, split-pea-sized, whitish or waxy tumors occasioned by disease, and the cysts formed by distention of the sebaceous glands. Occupying also a middle ground, between the venereal and non-venereal lesions, are the coxcomb or cauliflower excrescences, from a pin-head to a hen's egg in size, known as venereal warts. Often, indeed, these are implanted and

<sup>1</sup> Analysis of Five Thousand Cases of Skin Disease. Reprint from the Boston Medical and Surgical Journal, 1876. Consult also Variations in Type and Prevalence of Skin Diseases, by the same. Transactions International Medical Congress, 1876.



nourished by virulent juices, but I have, in a few instances, removed them from honest farmers, who were never open to the suspicion of marital infidelity.

Lastly, I call your attention to the singular misconceptions of those entirely healthy individuals who are tormented with the idea that they have cutaneous genital disease. Diday<sup>1</sup> has well described their mental condition. To the adolescent the genital apparatus becomes instinctively a source of interest, which may degenerate into a painfully morbid solicitude. By such, the dark border of the corona glandis is thought to denote incipient gangrene; the large, hairy follicles of the scrotum are mistaken for pustules; the myrtiform caruncles for excrescences. These patients should be treated neither with contempt nor ridicule. It is the part of the physician to instruct as well as to advise.

The therapy of the disorders we have hastily reviewed is that which you have learned in connection with the special study of each, guided by a knowledge of the important factors which engender or aggravate the genital varieties.

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## UPON THE TREATMENT OF STRUMOUS DISEASE BY WHAT MAY BE CALLED THE SOLFATARA METHOD.<sup>2</sup>

BY HORATIO R. STORER, M. D., NEWPORT, R. I.,  
*President of the Gynæcological Society of Boston.*

IN former years I have repeatedly drawn the attention of the society to purely gynæcological points connected with the ætiology, symptomatology, and treatment of phthisis. A means of treatment will now, with a few additional words of introduction, be presented which during last fall was in London thought of sufficient importance for me to bring before the British profession.<sup>3</sup> The question is one that bears not upon the relief merely, but the possible cure of consumption and other forms of strumous disease; a result that, as proved by dissection, has hitherto occasionally occurred by accident, but by our art has ordinarily not been effected. I shall merely present portions of the paper to which I have referred, and trust that sufficient interest may be excited by them to bring the new method into trial and perhaps practical use in this country.

For the four years 1872-76, and in part at the request of the American Medical Association, I was continuously engaged in investigating the relative claims of certain of the health resorts of Central and Southern Europe. The inquiry was made more particularly with reference to the needs of American invalids, who go abroad in so great numbers,

<sup>1</sup> *Thérapeut. des Malad. vén. et des Mal. cutanées.* Diday et Doyon. Paris. 1876.

<sup>2</sup> Read before the Gynæcological Society of Boston, February 7, 1878.

<sup>3</sup> Upon the Arsenical Atmosphere and Arsenical Hot Spring of the Solfatara at Pozzuoli, near Naples, in the Treatment of Strumous Disease. *Lancet*, September 29, 1877, page 456.

but, differing in national type of constitution, ways of living, etc., from the sick Russians, English, French, and Germans who form the bulk of their traveling companions, by no means always reach the localities best adapted for their respective disorders. Of these American invalids a very large proportion are consumptives.

The winter of 1872 was spent upon the Riviera, chiefly at Mentone; those of 1873, 1874, 1875, and two of the summers were passed in Southern Italy, and the winter of 1876 and summer of 1877 on the English south coast, including the Isle of Wight, and in London.

One of the objections most frequently made to Southern Italy as a residence for invalids by European writers upon climate has been the fact that, save in specially sheltered and usually very limited localities, its winter climate is changeable, and therefore, while borne by some classes of patients, it is particularly unfitted for chest affections. Naples is the only central point of resort upon the main-land south of Rome. The greater portion of the city and most of the towns and villages outside of it that are resorted to by English and Americans for winter residence are directly exposed to the harsh easterly winds, chilled by the snows of the Apennines; as, for instance, the favorite Strada Santa Lucia in Naples, and the whole of Castellamare. Delightful and safe though the latter place may be towards the end of spring and through summer, it is hardly to be recommended during winter for any class of invalids.<sup>1</sup> As regards consumptives, the same is nearly as true of Sorrento. Till within a couple of years the only places in Naples and its neighborhood that have been at all fit for delicate chests during winter have been in Naples, the Riviera di Chiaia, or plain along the sea in the modern portion of the city, and the westerly extremity of the new Corso Vittorio Emanuele above it, the respective merits of which, so far as concerns the chance of enteric and malarial fever, I have elsewhere discussed; and outside of Naples, Amalfi, Pozzuoli, and the islands of Ischia and Capri, to which latter invalids who go during winter often do so with fear and trembling, over a stormy sea, while Pozzuoli, lying a few miles to the westward of Naples, upon the northern shore of the entrance to the gulf, has been till within the last year wholly unprovided for their reception. Amalfi, on the Gulf of Salerno, is nearly four hours away from Naples, by rail and carriage. The two hours' drive from the nearest station, Vietri, is upon a cliff road far above the sea, and very attractive, fully as much so as the best part of that from Castellamare to Sorrento, or the Corniche road on the Genoese Riviera; the town seems at first sight well sheltered, and there is so much of beauty and novelty about one that the visitor is always charmed. Directly down

<sup>1</sup> If I correctly remember the opinion expressed a year or two ago concerning Castellamare in one of the English medical journals, by Dr. Maclean, of Netley, I am compelled to differ from that gentleman, who would probably have modified his favorable views as to this place, perhaps even his unfavorable ones as to Naples, had he but prolonged his visit.



through Amalfi, however, there courses from the mountains a little river, and its course serves as the channel for fierce winds at times, while the town itself is filthy and ill kept. Pozzuoli, on the other hand, is better protected, lies equally to the south, and is very much more accessible from Naples. Hitherto the question has been decided, so far as their equal sun and warmth are concerned, by the fact that there were two quite comfortable hotels at Amalfi, and nothing whatever in a suitable part of the town that was available for invalids at Pozzuoli.

In a series of letters published at Paris in 1874, and subsequently reprinted at Naples,<sup>1</sup> after speaking of the climatic and hygienic relations of the latter city, I discussed in similar terms to the present, but at greater length, the respective merits of its neighboring and subordinate curative resorts, dismissing several of these with the brief remark that they were "hardly fitted for the residence of invalids for the reason that as yet they are not provided with sufficiently comfortable hotels." Among them was Pozzuoli. It became generally known in Naples during 1875 and 1876 that my attention had become forcibly drawn to certain medical peculiarities of Pozzuoli shortly to be described, and it may have been partly in consequence that a comfortable hotel-pension, under English management and especially for invalids, has since been opened, the proprietress, Mrs. Dawes, having been very favorably known to me through her house for convalescents at Vico Equense, on the other side of the Bay of Naples, midway between Castellamare and Sorrento, one of the best-managed places of the kind that I found anywhere in Europe. I may mention also, in passing, that Dr. Cerio, of Capri, long an Italian army surgeon, English speaking, and with strong Anglo-Saxon affinities (through his English wife), has now removed to Pozzuoli for the purpose of thoroughly investigating the subject of the present paper; and from what I have seen of the gentleman and of his practice at Capri I have reason to believe that ere long we shall be put in possession of very important evidence corroborative of the conclusions that may be drawn from the statements I am about to make.

Now as to Pozzuoli and its peculiar merits in the treatment of strumous disease. Assertions very adverse to Pozzuoli will be found in English works upon climate that must, however, have been made as much without personal knowledge of the place as in ignorance of what has lately been discovered at it. For instance, there is mention in the latest edition of Tanner's *Manual*, by Dr. Broadbent, of London, of "the fatality of phthisis at Pozzuoli."<sup>2</sup> Plainly, patients already moribund may be carried to a place to breathe their last, as is yearly done at Mentone, without justly causing its condemnation; while for a na-

<sup>1</sup> Southern Italy as a Health Station for Invalids. Naples. R. Marghierì. 1875. Pp. 70.

<sup>2</sup> An Index of Diseases and their Treatment. London. 1876. Page 442.

tive Italian, once down with pulmonary disease, — in that country considered contagious, and to which their damp houses render them peculiarly prone, — to hope to recover under purely Italian nursing and hygiene is something ordinarily out of the question. That Pozzuoli lies on the road, though on the Naples side, to “the undrained swamps in the neighborhood of Baiæ” is nearly as much to the point as to speak of Hampstead in the same breath as the discharge outlets of the London sewage, or of Beacon Hill and the worst pest holes of Lynn.<sup>1</sup> An invalid may drive to the one, as he may to the other, if he chooses to do so, but it is not necessary in either case.

During 1873 and 1874 my attention was chiefly given to the ordinary considerations of local climate and a study of the Neapolitan chain of mineral springs, extending from Meta, adjoining Sorrento, through the whole circuit of the gulf, and ranging in temperature from 15° C., or thereabouts, at Meta, Vico Equense, and Castellamare, through from 17° C. to 21° C. in the springs of the city of Naples, to from 30° C. to 95° C. at Pozzuoli, Baiæ, and the adjacent island of Ischia. I then became aware, from chance statements of my friends Dr. J. A. Menzies, of Naples, and Signor Saggese, a skillful chemist, that several of the more noted Neapolitan physicians were commencing to claim for Pozzuoli an exceptional excellence of a wholly different character, asserting that a portion of it had an atmosphere of its own, perceptibly charged not with sulphur merely, but with arsenic, from the semi-extinct volcanic crater known as the Solfatara, which, from but slightly rising above the level of the adjoining country, is easily accessible on foot, by donkey, or by sedan-chair to the most feeble invalid. The breathing of this sulpho-arsenical atmosphere, it was stated, not only theoretically promised to be of benefit in cases of threatened or actual pulmonary tuberculosis, after repeated visits to the crater, extending over a longer or shorter period, but had in fact been proved so by actual experiment.

Such assertions, in such a country, were to be received with great caution, but occasion offered for me to make a practical test of the matter during the winter of 1874–75. A lad of eighteen, my own son, extremely tall for his age, feeble, and ill-nourished, had passed the preceding two winters at Mentone under the supervision of Dr. Henry Bennet, and at Sorrento, going steadily from bad to worse, so that his medical friends had become extremely solicitous as to the result. The patient was now confided to Dr. Menzies, by whose directions, after the late portion of the autumn of 1874 had been spent in the westerly extremity of the Corso Vittorio Emmanuele at Naples (the very sunniest and most sheltered portion of the whole city), he

<sup>1</sup> Vide Report upon the Sanitary Condition of the City of Lynn, rendered to the Massachusetts State Board of Health, by Prof. J. G. Pinkham, an active member of the Gynæcological Society of Boston; and an editorial in *The Boston Medical and Surgical Journal*, February 7, 1878.



was removed, still failing, to Amalfi. He passed some weeks at this place without noticeable benefit. It was therefore determined to make trial of Pozzuoli, despite the difficulty of obtaining a passably comfortable lodging. An apartment, such as it was, was hired, furnished, and a cook was taken out from Naples. The patient was unable to walk even the short distance from the house to the Solfatara, and was therefore carried into it by a couple of porters, breathing its direct exhalations for a gradually increasing period. Almost immediately he commenced to improve. In addition to the prolonged respiration of this special atmosphere he took also, in minute quantities, the water of a spring arising from within the crater, and very unlike the prevailing mineral sources of the neighborhood, which are alkaline, while this is sharply charged with sulphuric acid, and in use requires large dilution. The spring, and also the atmosphere in the vicinity of the greater vent of the crater, contain by analysis very appreciable quantities of arsenic. Other and ordinary measures, demanded by the alarming exhaustion of the patient, were meanwhile as hitherto pursued, and a certain amount of the improvement which then set in and became continuous was possibly attributable to them. There could, however, be no question that this improvement began with and was rendered uninterrupted by the special influences of the Solfatara. In the case now reported marked physical signs had been wanting. All the rational symptoms, however, — profuse night sweats and a host of others, — had long been those of progressing pulmonary or at any rate strumous disease.

Though now greatly interested in the subject, I could as yet — in view of a possible relapse in the instance referred to,<sup>1</sup> the impropriety of forming a conclusion from so limited an experience, and the total unfitness of Pozzuoli for the residence of invalids who had been accustomed to average American and English comforts — only say the following in my report to the American Medical Association, made in the spring of 1875: “Regarding the Solfatara at Pozzuoli, which has been recommended as a residence for certain classes of invalids, the Neapolitan physicians are of opinion, and the question is one worth considering, that the arsenical and other emanations given out by the still-smoking crater sensibly and beneficially modify the neighboring atmosphere in a medicinal way.”

<sup>1</sup> No relapse, however, occurred. The patient was able to pass the winter of 1875-76 continuously in Naples, living upon the Vomero, above the Corso Vittorio Emanuele. He returned to America in October, 1876, convalescent, and went through that winter safely in the harsh climate of Boston. He is now a student in the Massachusetts Institute of Technology.

For the sake of other invalids, it may be well to state that the house occupied in Naples, “Castello Monjoujou,” but recently built for the private residence of Prince Palagonia, and still owned by him, is altogether the most desirable in the entire city for a consumptive stranger, alike for sheltered and sunny situation, cheerful outlook, dry and spacious gardens, and internal comfort.

In proceeding to investigate the matter still further, I found that perhaps the first attempt to utilize the local atmosphere of the Solfatara was made by Dr. Abele Franza in 1871, as recorded in 1874 by Prof. Sebastiano de Luca, of the University of Naples.<sup>1</sup> Franza's patient, a Russian, was attended in consultation with Professors Manfrè and Lauro, and the diagnosis was advanced tubercular disease. He had been treated in Naples for four months without benefit, and the case had been pronounced a hopeless one. He was removed to Pozzuoli, and remained there for six weeks, being merely from time to time carried into the Solfatara, and respiring its vapors. The improvement is declared to have been immediate and to have remained permanent. A similar case, of even more interest, was reported at the same time by Dr. Annecchini.<sup>2</sup> The patient was seen in consultation with Prof. A. de Martini, of Naples, and considered clearly one of acute tuberculosis (*tisi galoppante*). A year after, the disease having in the mean time greatly progressed, this lady commenced to inhale the air of the Solfatara, and "solely in consequence" (*per virtù esclusiva della potenza medicatrice dell' aria della Solfatara*) she was pronounced "to have been radically cured" (*essa era in uno stato di salute il più soddisfacente, come se nulla avesse sofferto*).

The admirable work upon the medical geography of Italy by Prof. Luigi Marieni, of Milan, which, so far as the mineral springs of that country are concerned, must long remain a chief authority, was published in 1870,<sup>3</sup> a year before these facts occurred. In 1868 and 1869 Professor de Luca had presented three papers to the Academy of Sciences of the Royal Society of Naples upon the Composition of the Thermo-Mineral Water of the Solfatara, and the Temperature of the Greater Throat (*fumarola*) of its Crater, whence the arsenical exhalations escape, and within a limited though constant radius of which they are appreciable by Marsh's test. Other papers, chemical and therapeutical, upon the same subject, to the number of twelve or more, have followed from this gentleman, and are to be found in the *Comptes Rendus* of the Naples Academy; still others have been communicated by him to the Academy of Science at Paris, and he has also published the *brochure* already quoted, entitled Experimental Researches upon the Solfatara of Pozzuoli. The effect has been widely to attract professional attention in Southern Italy, and indeed throughout Europe, guaranteed as Professor de Luca's statements have been by the testimony of many of the physicians and surgeons to the great hospital Degl' Incurabili at Naples, some of whom are also attached to the University.

Whether the hopes of these gentlemen are well grounded can be

<sup>1</sup> *Ricerche Sperimentali sulla Solfatara di Pozzuoli.* Naples. 1874. Page 13.

<sup>2</sup> *Ibid.* page 43.

<sup>3</sup> *Geografia Medica dell' Italia.* Milan. 1870. Pp. 665.



proved only by continued experiment. They are now, however, even more sanguine than at first, and at the present moment, after, it is said, "the complete and radical cure" of quite a number of additional cases of advanced phthisis, who had been made to reside continuously for several weeks at the Solfatara, a branch of the Incurabili hospital has been established within the crater for the special treatment of pulmonary disease. To make the collateral test upon English-speaking patients has, as already stated, now for the first time been rendered possible at Pozzuoli. It is not unlikely that in the future the crater of the Solfatara may become as famous for its effect upon the prolongation of life as the neighboring Grotto del Cane has been for imperiling it.

It will be very interesting to test for arsenic the atmosphere of the various *stufes*, or volcanic vent holes of steam and dry air, existing upon the neighboring island of Ischia (a famous place of resort for invalids, in the Bay of Naples), which does not yet seem to have been thought of, though they were studied with care by the late Dr. Chevalley de Rivaz, of Casamicciola; <sup>1</sup> and it would be also well that the same should be done with those at Calistoga and the Geysers, already noted in the treatment of disease, in the vicinity of San Francisco, California, and the similar fumaroles of the Yellowstone.

Whether equal advantage to that mentioned above can be gained by a partial return to the old way of treating phthisis by artificial preparations of arsenic, this time with sulphur or sulphuric acid, — a combination that seems never yet to have been used in medicine, <sup>2</sup> — and employing them by inhalation, in atomized solutions, either cold or conjoined with steam, is as yet a point to be determined. My own impressions are in their favor.

It may be argued that the as it were camping-out life at the Solfatara has something to do with the effect produced. The freest and most open air is never too pure for consumptives anywhere, but in Italy the ordinary life is an out-of-doors one, and these Solfatara cases had been

<sup>1</sup> Description des Eaux minero-thermales et des Étuves de l'Île d'Ischia. Naples. 1859.

<sup>2</sup> In answer to an inquiry that I addressed him, Mr. Theodore Metcalf, of Boston, has kindly given me the following *résumé* of our present knowledge upon the subject: "The only arsenical preparations used in medicine are the liq. potassæ arsenitis, liq. sodæ arsenitis, liq. arsenici chloridi, and a solution of chloro-phosphide of arsenic, recommended by Dr. Hammond, of New York. The arseniates of ammonia, potassa, and soda are in use; also Donovan's solution, iodide of arsenic, and arseniates of antimony, copper, iron, quinia, and strychnia. Pastes of arsenic I have never had any occasion to make, nor any fumigations, except in one instance, when I had an order to saturate cigars with liq. potass. arsen. The arsenious acid in pills is also considerably used, and arsenic combined with quinia, iron, etc. Orpiment, a tersulphuret of arsenic, consisting of one equivalent of arsenic and three of sulphur, is used only as a pigment and a depilatory. Realgar, a bisulphuret, one equivalent of arsenic and two of sulphur, is used only as a pigment. Neither of the sulphides, that is sulphurets, of arsenic are supposed to be so poisonous as the arsenic itself, but so far as I know they are never prescribed. The most recent medical literature that I have at hand gives nothing new in arsenical remedies."

subjected to it before being carried to Pozzuoli, and yet had rapidly declined.

It may also be said that by the Solfatara method we are not treating a local disease by constitutional measures, but a constitutional one with a local tendency by means that are wholly localized. Though seemingly true in cases of pulmonary disease, the remark cannot be applied to other forms of struma, which appear to derive similar benefit. It would seem probable that the arsenic produces its effect, granting the premises that in Naples are now assumed, in a manifold way: (1) by direct action, in diseases of the respiratory passages; (2) by increasing nutrition or suspending waste, or both, for which it has long been noted; (3) as a general alterative; and (4) as a general tonic.<sup>1</sup>

In the case observed by me, the arsenical water of the Solfatara was used in conjunction with the respiration of its atmosphere, and may have increased the action of the latter, while its own, like that also of the atmosphere, may have been enhanced by the sulphuric acid that it contains. In many of the successful Italian cases, however, the inhalation of the arsenical atmosphere has alone been employed, thus narrowing the question to its ultimate merits. In either case, however, the treatment would chiefly have been constitutional, in accordance with Dr. Henry Bennet's well-expressed formula: "The most advanced minds in the profession more and more recognize the fact that the local manifestations of chronic chest diseases, tubercular or inflammatory, are mere epiphenomena. They require treatment, of course, but their treatment is of secondary importance when compared with the treatment of the constitutional state of the patient, which is at the root of the mischief."<sup>2</sup>

Remarks upon the effect of the Solfatara in purely gynæcological cases, functional and organic, I must reserve for a future occasion. Meanwhile the whole question will be still further investigated, from an English stand-point, by Dr. Cerio.

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## RECENT PROGRESS IN SURGERY.

BY J. COLLINS WARREN, M. D.

*Cancer of the Rectum.*<sup>3</sup> — Professor Volkmann contributes an interesting article on the methods of operating upon the different forms of this disease. He describes three separate conditions which require each a different form of operation. In the first there is a circumscribed

<sup>1</sup> See Aveling, Decongestive Action of Arsenic upon Mucous Membranes, British Medical Journal, January, 1872, page 10; Journal of the Gynæcological Society of Boston, September, 1872, page 221.

<sup>2</sup> Dobell's Reports on the Progress of Practical and Scientific Medicine in Different Parts of the World. London. 1870. P. 418.

<sup>3</sup> Volkmann's klinischer Vorträge, No. 131.



tumor, in which case a small portion of the wall of the rectum is removed, the wound being closed by sutures. In the second class of cases we find the anus and a greater or less portion of the bowel affected, necessitating an extirpation of the rectum, so called, the upper end of the gut being dragged down and stitched to the skin. Lastly, we have the same condition as in the previous case without implication of the anus. A circular portion of the rectum is removed, and the upper and lower edges of the bowel are brought together by stitches. In the first variety, which may or may not involve a portion of the anus, the wound must be made in such a way as not to cause stricture. The edges are carefully brought together with catgut sutures, and a fine drainage tube is laid beneath them, the end of which protrudes at the anus. If the disease is wholly inside we must first thoroughly dilate the sphincter and keep it open with spatulæ. The disease is then dragged down with hooks, and removed as if it were an external growth. The wound is stitched as before, but in order to have the tube discharge externally it is inserted through a fistular opening made by a narrow lancet at the outer border of the sphincter, extending up to the lower edge of the wound. There is no danger of stricture, even if the wound be vertical, owing to the capacious size of the rectum at this point. Sometimes dilatation does not suffice, and it is then necessary to cut through the sphincter down to the coccyx. This wound is afterwards carefully sewed up, but if the disease is on the posterior wall the tube can be laid in the wound beforehand.

When the whole anus and a part of the rectum is diseased the operation of extirpation of the rectum is performed, the sphincter and canal being removed as a hollow tube. To get room, incision may be made above into the perinæum and below down to the sacrum. Volkmann has even resected portions of the bone as high up as the promontory, and in women a portion of the posterior wall of the vagina. Of course the peritonæum is laid open in these operations, but the hole is immediately plugged with carbolized sponges until the operation is finished, and is then carefully sewed up. The healthy end of the bowel is stitched to the skin, and then small drains are inserted, or in the more extensive operations a long non-fenestrated piece of tube is also inserted, reaching from without to some point in the depth of the wound, and is put in communication with a drip. The bed is protected by a rubber pan placed under the hips, and at the end of four or five days the drip is omitted.

In the third variety a circular piece of the rectum must be excised, the disease being altogether inside and involving the whole circumference. A preparatory incision is made upwards through the perinæum and downwards to the sacrum, as far up as the lower edge of the disease, which is thus more easily removed. The mucous membrane above is then

brought down to the lower edge of the wound thus made and stitched to it, and the vertical cuts are sewed up. One of these vertical cuts may serve as a bed for the drip tube.

A plug of cotton inside of oil-silk is usually inserted into the bowel after the operation, and a T-bandage applied. Although these operations can be looked upon as only palliative, Volkmann urges them strongly on account of the immediate relief from pain which they afford. Moreover, cancer of this part is not by any means of the most malignant type. In three cases he has effected a permanent cure. In other cases there was no return for six, five, and three years respectively. A patient died of cancer of the liver eight years after the operation, without local return. Another patient is now about in active business, eleven years after the first operation, two operations having been subsequently performed. In very severe cases, such as he now declines to operate upon, he suggests as the operation of the future laparotomy, with extirpation of the rectum as high up as the sigmoid flexure, the end of the bowel being stitched into the wound. At present, for such cases he would advise lumbar colotomy, but would limit that operation to this class alone, and not advise it for so large a class as is done in England.

*Treatment of Hydrocele by Incision performed antiseptically.*<sup>1</sup>—In a former report attention was called to this method as described in an article by Volkmann.<sup>2</sup> Dr. Genzmer gives a list of sixty-nine cases treated in this way without a single fatal result, and with no excessive inflammation, such as followed incision in the old way. The average duration of the stay of patients in the hospital was ten days. There was in but one or two cases an elevation of temperature of more than three degrees. The method is, in brief, to open the sac by an incision from three to four inches in length. The testicle is then examined, and if there is cheesy orchitis the diseased portions are laid open and scraped out. The edges of the tunica are then stitched to the scrotum with catgut sutures. The testicle now appears lying at the bottom of a gaping wound. A drainage tube is placed vertically upon the organ, and the edges of the wound are partly approximated by one or two deep silk sutures to prevent the testicle from escaping from the sac. Primary union of the walls of the sac takes place, and a slight granulating surface is left at the end of a few days to mark the site of the cut. The tube is removed usually about the fourth day, when the silk sutures are also taken out, and the dressing changed a second time at the end of a week. The wound is then dressed with benzoated cotton batting inside of a suspension bandage, and the patient discharged.

*Splenotomy.*<sup>3</sup>—A case of removal of the spleen was reported by Dr.

<sup>1</sup> Klinischer Vorträge, No. 135.

<sup>2</sup> The JOURNAL, June 22, 1876, page 711.

<sup>3</sup> British Medical Journal, February 9, 1878.



Martin, of Berlin, to the surgical section of the British Medical Association at its last meeting. Previous to this case there had been nine operations with only three recoveries. One died of pyæmia, two sank under the influences of shock, while the remaining three died of hæmorrhage, — one upon the operating table and two a few hours after the operation. The difficulties of the operation appear to lie in the ligation of the splenic vessels, which must be cut in the neighborhood of the stomach and pancreas. If the pedicle is short the ligatures must be placed near the divided ends of the vessels, and the strain is great, owing to the close proximity of the aorta. Dr. Martin did not have much trouble at this point of the operation, as the spleen was a floating one and the pedicle unusually lengthened. The patient was a feeble, hunchback woman, thirty-one years of age, and suffered from uterine disturbances, which appeared to be aggravated by the spleen getting down into the pelvis. The operation was performed with antiseptic precautions, and the wound healed by first intention. The account does not state how much benefit was eventually derived from the operation.

*Surgical Treatment of Bronchocele.*<sup>1</sup> — Professor Billroth has found that the injection of iodine is not as dangerous as was supposed. In some individuals a violent reaction occurs, in others there is none. His method is as follows: He injects first from one third to one half of the so-called Pravaz syringeful of undiluted tincture of iodine, and, if this is well borne, in five or six days he makes a second injection of one half or a whole syringeful, repeating this twice a week. If the patient becomes thin the treatment should be immediately stopped, as the emaciation may go on to an important degree. It should also be stopped if hæmoptysis appears. In general, the injections are well borne, and exert remarkable influence. They may be tried when suffocative symptoms have appeared, if the patient is kept under constant inspection; and even in cases about to be operated upon their employment has been followed by recovery. It is essential that the iodine be injected well into the substance of the bronchocele, which may be done rapidly, the pain at the most continuing for five or ten minutes, and requiring cold applications, while in many cases it is entirely absent.

In cystic bronchocele he usually injects half an ounce of tincture of iodine, after having allowed the cyst to empty itself through a canula. The puncture is sealed up, and on the third day there is great swelling and accumulation of gas; from this moment absorption begins slowly, lasting about a year. In thirty-four cases treated in this way he had twenty-nine recoveries. The iodine is supposed to exert an alterative action upon the cells lining the cyst, and thus prevents further secretion. He has also tried incision with drainage, and stitching the wall of the sac to the skin. Three out of twelve treated in this way died,

<sup>1</sup> Medical Times and Gazette, November 27, 1877.

however. Of thirty-seven cases of extirpation twenty-four recovered. He finds the cartilages of the trachea so thinned by pressure that they become easily compressible, and hence several sudden deaths have taken place from swelling of the parts, giving rise to suffocation. The mortality in a series of ninety-four cases was eighteen, or about nineteen per cent. A case of goitre successfully treated by one subcutaneous injection of ergot was reported at the recent meeting of the American Medical Association.<sup>1</sup>

*The Treatment of Cancer by Pressure.*<sup>2</sup> — This is the very latest novelty in the treatment of this disease. M. Bouchut has invented a cuirasse of vulcanized india rubber which he is said to have used with success for the treatment of cancerous and other tumors of the breast. The idea is not new, experiments having been tried in this direction without success. An analogous method is the ligature of the nutrient artery of such a growth, as in disease of the tongue. The *Lancet* remarks that it is obvious if pressure is to be effective it must be applied around the periphery of the growth, where the cell proliferation is most active. This must be obtained, it is said, by the careful adjustment of pads of cotton-wool. The neatest plan would seem to be the employment of compressed sponges, which might be bandaged firmly around a tumor of the breast, and then allowed to swell by imbibition of water. The constriction of the chest would of course be great and thoracic respiration seriously interfered with. But the patient might be kept in bed, where abdominal respiration might suffice.

*Surgical Uses other than Hæmostatic of the Strong Elastic Bandage.*<sup>3</sup> — The Esmarch bandage is made of thick rubber sheeting, and if applied with the ordinary tightness exerts an equable pressure which is readily borne by the patient. Dr. Martin recommends its use in varicose ulcers of the leg. Also in injuries and diseases of the joints, housemaid's knee, and various other affections. The bandages are prepared with a tape attached to the free end for the purpose of securing it to the limb. The reporter has found this a very neat way of applying elastic pressure.

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## ANNUAL MEETING OF THE HARTFORD COUNTY MEDICAL SOCIETY.

THE annual meeting of this society was held April 25th at Hartford. About fifty members were present, representing nearly every town in the county. The usual routine of business being disposed of, the relation of interesting cases was commenced.

<sup>1</sup> JOURNAL, June 20, 1878, page 811.

<sup>2</sup> Lancet, April 27, 1878.

<sup>3</sup> Read by Dr. H. A. Martin at the meeting of the American Medical Association of 1877.



*Urethral Hæmorrhage.* — Dr. Swasey, of New Britain, reported a case of profuse urethral hæmorrhage, over fourteen ounces of blood being lost, which was checked by the internal administration of ergot and the use of a sound of large calibre.

*Traumatic Amaurosis.* — Dr. Bacon, of Hartford, reported the following cases: P. R., a laborer, thirty-two years old, was thrown from a truck, striking the right side of his head on the pavement. He stated that the sight of that eye was entirely lost. The ophthalmoscope showed that the media of the eye were clear, the retina and optic nerve healthy, except slight haziness and redness. The answers on testing his eyes by prisms were always consistent. He also complained of trouble in the left ear, and a laceration in the membrana tympani was found. After two months atrophy of the optic nerve commenced, and neuritis of the other eye. The patient was then lost sight of. The second case resulted from a fall downstairs, the head striking violently against a brick wall. There was, after consciousness returned, inability to see anything, even light. Several days later the eyes were examined. With the right he could see a light everywhere except on the nasal side; media clear; retina and papillæ slightly hazy; vessels normal. Left eye, marked ptosis; vision, absent; slight perception of light in the temporo superior and inferior quadrants; media clear; fundus hazy; no extravasations of blood. After several weeks the sight came back. He described its return as like looking through a net, of which the meshes grew larger and larger. As extravasations in retina or nerve were excluded in these cases there remained only concussion of the nerve as it emerges from the foramen, "as if struck with the back of a heavy knife," as explained by Dr. Noyes.

Dr. Bacon also presented a paper on the Treatment of Phlyctænular Ophthalmia by Stimulation, with reports of cases, the plan recommended being the use of the yellow oxide of mercury with glyceramyl applied to the ball of the eye every day or every other day, according to the strength of the ointment.

*Perforation of Vermiform Appendix.* — Dr. Wainwright, of Hartford, related a case of perforation of the vermiform appendix by a concretion, followed by peritonitis and death, in a young man, a college student, the case terminating on the third day. He also gave the details of a case of popliteal aneurism cured by pressure, and presented a paper giving a review of the surgical history of the year, — a very comprehensive summary.

*Enlarged Spleen.* — Dr. Lyon, of Hartford, exhibited two cases of enlarged spleen, resulting from malarial fever originating in this region, the first recorded cases thus arising.

*Pneumothorax with Embolism of the Pulmonary Artery.* — Dr. Lyon presented the history of the above unusual complication also. The clot blocking the artery was rolled up into a firm coil, and branched when unrolled, showing divisions which indicated its origin from a vessel which divided, and prevented the conclusion that it had formed in the heart. Six days before there were symptoms of thrombosis of the left femoral and popliteal veins, with sudden pain and swelling of the leg. The patient died suddenly while sitting in his easy chair, having had one or two severe attacks of dyspnœa a few hours pre-

viously. Air escaped on opening the chest. The lower lobe of the left lung was collapsed, the upper solidified, tubercular; the right lung was tubercular with cavities (the patient had been under treatment for phthisis), and the clot was found as described.

*Cardiac Thrombosis.* — Dr. Lyon also gave the details of two cases of cardiac thrombosis, one occurring twenty minutes after delivery in a woman twenty-eight years of age, in her third confinement. There was no hæmorrhage after delivery, and no albuminuria previously. Instruments were required.

The second case was during convalescence from pneumonia in a young man who insisted on sitting up in a chair contrary to directions. Death ensued thirty hours after the first symptoms of prostration.

*Perityphlitic Abscess.* — Dr. Chamberlain, of Hartford, reported the case. F. T., aged thirty-seven, an inventor and machinist, was seized with severe pain in the right inguinal region, accompanied by a chill. The temperature was 105.5° F., the pulse 130. There was tympanites. Ten grains of calomel were given, to be followed by an injection of sweet oil. No movement of the bowels resulted. Morphia hypodermically and hot fomentations were used for three days, when tenderness was more marked just above Poupart's ligament on the right side, and a circumscribed doughy feeling. On the fourth day, an exploratory puncture with a hypodermic needle was made in the presence of Dr. Geo. C. Jarvis, and pus was found. On the afternoon of the fourth day a diagonal incision three inches long was made by Dr. Jarvis, cutting only a small arterial branch, which was secured by torsion. About a teacupful of pus escaped, which was of decidedly offensive odor. The abscess walls were pretty well defined, running round and adherent to the intestine. The vermiform appendix, apparently solidified, could be felt inside the abscess sac, and what appeared to be portions of the appendix were afterwards discharged with several masses of concretion. The wound was treated antiseptically, a free discharge being maintained, and was syringed three times daily with dilute carbolic solution. After the abscess walls were discharged no pains were taken to prevent the injection from passing into the abdominal cavity. The wound healed completely in eight weeks, care being taken to prevent too rapid union. There has been no recurrence for a year.

*Germ Theory.* — The report on matters of professional interest in the county was presented by Professor Wilcox, of Hartford, who opened the discussion of the germ theory of disease, involved in the series of questions sent to each member. He presented an outline of the theories held concerning disease germs and a *contagium vivum*, advocating the claims of these theories to the consideration of the profession. The majority of respondents believed in the sporadic origin of zymotics, and brief papers were presented by several in support of their views. A lively debate followed, in which both sides were fairly presented.

Dr. T. D. Crothers presented a paper on some of the entailments of alcohol, with illustrative cases. A dissertation was then read by Dr. Swasey, of New Britain, on Uterine Contraction as a Factor in Controlling Hæmorrhage. Dr. Chamberlain presented a communication from the newly created State Board



of Health, and a committee on public hygiene was appointed as an auxiliary to the State Board.

The subject of legislation to regulate the practice of medicine was introduced, and after a lively debate it was considered inexpedient to agitate the subject in the present state of public sentiment and medical intelligence.

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#### DELAFIELD'S PATHOLOGICAL STUDIES.<sup>1</sup>

THE first two numbers, now before us, give promise of a very valuable work which we are glad to welcome. The plan is to give some account of the normal histology of certain parts and tissues, and then of the pathological changes to which they are subject, in a series of monthly fasciculi, each containing several plates. The illustrations constitute an essential feature, and deserve mention first. They are clear, correct, and artistic. It would be rash to say what the future may do for micro-photography, but we can assert without hesitation that this art can at present give no pictures that can be compared with these drawings, and that a very great improvement will be necessary before it can. The text is good, but a little meagre. We are inclined to question the correctness of the author's views of the ground substance of connective tissue, which he describes as homogeneous during life, and coagulating after death into fibres which sometimes are arranged in bundles, sometimes in layers or in net-work. Surely these fibres must be existing, though indistinguishable, during life, for it is hardly to be supposed that if they depended on the accident of coagulation we should not have even more varied and confusing appearances than is the case. The subject of tendon cells certainly deserves more attention than it has received; we hope the author intends to return to it. Plate VI. is an admirable representation of the endothelium of the human pleura, but we think Dr. Delafield is in error in making no distinction between the black spots, of which he speaks as probably stomata. The smaller ones may indeed be openings between the cells, but some of the larger patches, shaped like the neighboring cells, are probably due to the falling off of a cell, which thus leaves a surface covered with the intercellular fluid (Kittsubstanz) which produces the characteristic reaction with the silver.

The work is very handsomely published, and deserves a warm reception.

T. D.

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#### CHARTERIS'S HAND-BOOK OF PRACTICE.<sup>2</sup>

THIS little hand-book presents, in an attractive and eminently practical form, the results of the author's experience in the practice of medicine, with brief reference to accepted methods derived from other sources. The style is concise, and the descriptions of the various morbid conditions satisfactory, as a

<sup>1</sup> *Studies in Pathological Anatomy.* By FRANCIS DELAFIELD, M. D. Nos. 1 and 2. New York: Wm. Wood & Co. 1878.

<sup>2</sup> *Hand-Book of the Practice of Medicine.* By M. CHARTERIS, M. D., Professor of the Practice of Medicine, Anderson's College, Glasgow. With Illustrations. Philadelphia: Lindsay and Blakiston. 1878.

general thing, although in some instances there are omissions which the modern pathologist might regard as faulty. The author states in the preface, however, that, as it is his desire to deal with "ascertained facts, some points still in dispute have been only incidentally mentioned, not discussed." The illustrations serve a practical purpose, and the book is better worth consulting than many more pretentious volumes.

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### ANSTIE ON THE USES OF WINES.<sup>1</sup>

THE opinion of the late Dr. Anstie regarding the effect of wine upon the economy is entitled to the greatest consideration, and his knowledge of the chemistry and of the different properties of the many wines and vintages of all parts of Europe, of which he writes as a connoisseur, enabled him, in this series of papers, to generalize upon the effect of these beverages in health as well as in disease in a manner which may well attract the attention of the thoughtful practitioner. The lighter wines of France, the Rhine, Austria, and Hungary are especially commended, but in this country, owing to the high tariff and the prejudice in favor of more strictly "national" drinks, these wines are so dear or so bad that the class of habitual consumers is small. The question of recommending one kind of wine rather than another to persons in health may seldom arise in the physician's mind, and a suitable allowance of stimulant in a stronger form may be thought to fulfill all the indications in disease. Dr. Anstie held different views, and in the later stages of certain debilitating affections, especially in some cases where there is much cerebral or cardiac exhaustion, far more virtue is attributed to highly ethereal old wines, port, sherry, Rhenish, or Hungarian, than to more potent alcoholic liquids. The use of diluted spirit, however, is regarded as of greater value in the course of most acute febrile affections.

The book abounds in valuable suggestions derived from the author's practical experience. It may be said, however, that the amount which is regarded as reasonable and prudent for a vigorous and actively employed adult in England, a bottle of light wine (ten per cent. alcoholic strength) daily, is probably more than can habitually be taken to advantage in our climate. The "moderate diners-out," to whom the author refers, have doubtless the same habits the world over, but the convivial customs of the "virtuous dancing young ladies," which are mentioned, are, we are inclined to think, more prevalent in the British islands than elsewhere.

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### DOBELL'S REPORTS.<sup>2</sup>

THE third volume of Dr. Dobell's series of Reports on Diseases of the Chest is fuller even than the previous ones, and the contributions from all parts of

<sup>1</sup> *On the Uses of Wines in Health and Disease.* By FRANCIS E. ANSTIE, M. D., F. R. C. P., Late Physician to the Westminster Hospital, and Editor of the Practitioner. London: Macmillan & Co. 1877.

<sup>2</sup> *Annual Reports on Diseases of the Chest.* Under the direction of HORACE DOBELL, M. D., etc. Vol. III. London: Smith, Elder & Co. 1878.



the world are of great interest. Hereafter the volumes will appear at more or less frequent intervals according to the amount of material which this branch of medicine affords.

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## THE ATTITUDE OF THE MASSACHUSETTS MEDICAL SOCIETY TOWARD THE " 'PATHIES."

ATTEMPTS to set the public right as to the position of the Massachusetts Medical Society in their relations to the so-called irregular physicians are sufficiently discouraging, and by many indeed are considered as useless and beneath the dignity of an honorable profession; but if it be true that silence gives consent to erroneous charges, it is certainly proper occasionally to assert the truth as to our position.

A large proportion of the community have neither the time nor the inclination, and many, indeed, it is quite proper to say, have not the ability, to examine for themselves, so that bold assertions, howsoever wide of the truth, if persistently reiterated and allowed to pass unchallenged, are finally accepted as correct.

To notice the constantly recurring misstatements of anonymous paragraphists, in irresponsible journals, would truly be a hopeless and unsavory task, but when a journal which is by general consent so influential and intelligent as the *Springfield Republican*, ordinarily so active and keen-sighted to all issues affecting the interests of the public, can so misapprehend the facts as to enunciate the following under the title of "the 'pathy of the future," we may surely be pardoned if we embrace the opportunity for a word or two of comment:—

"We confidently look forward to a school of medicine in which all theories shall have their fair place, and the foundation of all the doctor's education—the knowledge of the human frame, and the cumulative teaching of experiment for ages—shall be the acknowledged reliance of the profession for their work, without any reference to Galen, Hahnemann, or any other theorist."

(1.) We confidently claim for the Massachusetts Medical Society that it does not only for the future, but in the present (as it has in the past) require of its members that every theory shall have its fair place, namely, that everything new shall be carefully investigated and have a fair trial. Not only is there no disposition, but there is no power in the society to prevent this. To convince the unbelievers by enumerating the changes and additions to regular practice, even during the past half century only, would require a volume, and we may add that two such volumes would be needed for the recapitulation of the host of novelties and crudities which after impartial trial have been rejected as worthless. *Hinc illæ lachrymæ.*

(2.) We confidently claim for the society that it rigidly requires of its members that a "knowledge of the human frame and the cumulative teaching of experiment for ages shall be their acknowledged reliance;" in other words, that the required standard of education, necessarily embracing all of *that*, shall keep pace with the rapidly progressing scientific developments of the age. And

Lastly, that, while freely welcoming all thus qualified, every " 'pathy," past or future, shall be strictly excluded; that homœopath, allopath, "or any other

theorist" shall not associate with us as such. Is not that plain enough for the comprehension of the most careless?

A good moral character, a high standard of education, ethical rules forbidding mystery and deceit, and only demanding that our associates shall be gentlemen in the highest sense of the word, each to the other and both to the public, ought surely to be reckoned a good enough platform. Such we unhesitatingly claim as our position. So often has this been asserted that ignorance of it would almost imply that our very liberality was in itself a source of offense.

It is not pleasant to recognize the need of such constant repetition for the information of intelligent people, but the cry of persecution, exclusiveness, and illiberality is so perseveringly indulged in by those who either are unqualified to meet our requirements, or who find it for their interest to mislead, that as before stated we think it worth while from time to time to show our standard, for the guidance of those well-meaning but mistaken individuals who are so readily and carelessly misled by the disingenuous utterances to which we have alluded.

Examination must ensure conviction to every reasonable mind that our claim to be the champions of the fullest latitude, both in theory and practice, not inconsistent with the demands of an educated and scientific profession, is incontrovertible.

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### MEDICAL NOTES.

— A death occurred in Philadelphia after the use of Holt's dilator in the hands of a prominent surgeon a short time since. The patient was about thirty-five years of age, apparently in excellent, vigorous health, but complaining of a tight urethral stricture. He was taken before the class, rapid dilatation performed, and that evening he passed a full stream, but soon after had a violent chill, and died in eighteen hours after the operation.

— The Pennsylvania State Medical Society voted, May 30th, to recommend the use of the metric system to the members of the society and to the public schools, to urge medical students to make exclusive use of it, and that in all communications hereafter made to the society the metric system alone should be employed.

— The American Medical Association (Section of Practical Medicine, Materia Medica, and Physiology) voted, June 5th, to recommend to all physicians the use of the metric system in their practice and in their writings and teachings, the same being in its character uniform, international, indestructible, generally applicable, convenient, simple, safe, and scientific.

— The *Medical Press and Circular*, in connection with Mr. Lennox Browne's book on *The Throat and its Diseases*, refers to the introduction of a "novelty" in the shape of plates so arranged that the reader can have the illustration side by side with the text of any page, and thus avoid the constant turning backward or forward for the plate. This "novelty" in arrangement may be found in Haller's *Icones Anatomicæ*, published in 1743, and probably in other ancient works as well.



— *La Presse médicale* records the death of a woman from the rupture of an aneurism of the *right gastro-epiploic artery*. The patient, a very stout woman, complained of sudden, severe, and circumscribed pain in the epigastric region, with accompanying pain in the abdomen. Collapse soon followed, and death occurred within twenty-four hours. The *Press and Circular* pronounces the case unique.

— In the *Analyst* is the story of an American lady who, unable to find in England the face cosmetic which she had brought from America, desired a chemist to analyze the substance and manufacture a new quantity of similar nature. He found it to consist wholly of calomel. Its consistency was due to water. "Another instance of the 'cuteness of the Yankee, regardless of consequences,'" says the *Press and Circular*.

— Dr. Baillée, of France, finds no more effectual remedy in chloroform syncope than a piece of ice introduced into the rectum. So soon as the ice melts a deep inspiration follows, and the heart's action becomes reëstablished. Baillée recommends the same procedure in the apparent death of the newly born.

— The life insurance companies of Germany and Austria have memorialized their respective governments with the request that an international disinfectant commission be organized, the object being prevention of the pestilence which it is feared will arise upon the Turko-Russian battle-fields, now mere cemeteries, and utterly neglected.

— The Foundling Hospital in Moscow shelters seventeen hundred wet nurses and two thousand infants. Fifty children are daily admitted. The boys are trained as soldiers or mechanics, the girls as servants. The hospital supports thirty thousand young people annually.

— The *Medical Examiner* mentions the following: "We learn from the monthly letter of the English Anti-Tobacco Society that a curious society has been in working order for the last ten years in Berlin, 'and has done much good.' The name of the association is *Verein der Sammler von Cigarren-Abschnitten*, and its object is to collect cigar ends and turn them into snuff, which is then sold to purchase clothes for poor orphan children. Our specialists who have turned their attention to affections of the olfactory organs may soon be able to give an account of the diseases produced by snuff made from well-sucked cigar ends. The charitable will now have an object in smoking when they feel that their indulgence procures comforts for others."

— Lebert, after extended observations, supports Grisolle's affirmation that pregnancy aggravates the phthisical condition, but he finds that the results of labor are more deleterious than the effect of pregnancy. He thinks the physician should discourage marriage in any young girl who at any time has shown symptoms of "tuberculosis." So far as posterity is concerned, why not discourage marriage in the consumptive man also?

— Dr. Gussenbauer, of Liège, has been named professor of surgery in the University of Prague, *vice* Heine, deceased. Dr. Bergmann, of Dorpat, succeeds the late Dr. Linhart in the surgical chair of Wurzburg. Dr. Bose, of Berlin, has been made professor of surgery in the University of Giessen. Dr. Charles West has been elected president of the Royal Medical and Chirurgical Society for 1878-79. For the ensuing year Dr. Erasmus Wilson has been made president of the Royal Medical Society of London.

## PROFESSOR B. VON LANGENBECK'S CLINIC, ROYAL UNIVERSITY AT BERLIN.

REPORTED BY W. B. PLATT, M. D.

*Removal of an Enchondroma arising from the Circumference of the Left Foramen Obturatum.* — The patient, Gottlieb Gallien, fifty-five years of age, by occupation a farmer, residing at Wittenberg, was said to come of healthy family; his previous health had been good; there was no history or indication of syphilis or of trauma. The tumor first attracted attention about eight years ago as a hard swelling in the left side upon the ramus horizontalis pubis. He was a man rather below the average height, of dark complexion, sallow, rather anæmic, and with poor general muscular development.

The tumor arose from the crest of the left side of the pubes apparently, and probably also from the ascending ramus of the ischium. It was hard, slightly elastic, immovable, irregular in outline, and nodulated on the surface; as a whole ovoid in shape, and as large as an infant's head. The greatest vertical diameter was also over the pubes. It projected upward and forward toward the abdomen, extending also downward over the front of the thigh, and inward toward the median line, sloping gradually until it disappeared at a point not quite midway between the symphysis pubis and the internal condyle of the femur. The growth did not apparently implicate the femur or hip-joint. The thigh admitted of but slight flexion or rotation inward. The femoral artery could be felt pulsating to the outer side of the tumor, between it and the anterior inferior spinous process of the ilium, being pushed far out of its normal course. Upon the outer and lower aspect of the tumor was a sinus, large enough to admit a knitting-needle. From this a small quantity of a transparent, synovia-like fluid escaped.

Operation took place January 9, 1878. The patient being placed in the horizontal position and anæsthetized, a semilunar incision was made upon the anterior and lower surface of the tumor, at an angle of about thirty degrees from the horizontal plane, commencing three centimetres from the spine of the pubes, and ending near the anterior inferior spine of the ilium. The skin, being made free above and below, retracted, especially that of the thigh, carrying the inner end of the incision half-way down the scrotum. The upper portion of the quadriceps femoris, the pectineus, and the upper portions of the adductor muscles seemed to melt into the tumor, stopping short at and adherent to its surface. It was necessary to sever the obturator internus, externus, and gracilis muscles on account of their firm attachments to the growth. All the femoral muscles coming into view were atrophied, and fatty degeneration had taken place to some extent. There was very little arterial hæmorrhage, the obturator vein only giving some little trouble. Silk ligatures were used, but no spray. The tumor was seen to arise from the entire anterior circumference of the obturator foramen, the surface of which was removed with chisel and hammer until healthy bone was reached. The edges of the wound were now approximated by numerous silk sutures, and drainage tubes were inserted at the inner and outer angles of the wound. Professor von Langenbeck remarked that he had never before seen an enchondroma where



the neighboring muscles were so universally adherent. Compression under a gauze bandage was now applied. The wound healed rapidly, the greater part by first intention, with very little traumatic fever or discharge from the wound. The patient was shown in the clinic March 6th, ready to return home.

The temperature usually varied from 98.6° to 100.4° F., never exceeding 104°. The tumor, on examination, proved to be, as was supposed, an enchondroma, bluish-white, pearly, and elastic, being ossified in numerous isolated spots, as large as kernels of corn, scattered throughout the mass. The weight was a fraction over nine pounds. The limb is now capable of considerable voluntary flexion and some adduction.

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### SHORT COMMUNICATIONS.

#### THE TOURNIQUET IN TREATMENT OF FRACTURE OF THE PATELLA.

BY R. B. ROOT, M. D., GEORGETOWN, MASS.

I wish to call the attention of the readers of the JOURNAL to a modification, and I think a great improvement, of Dr. Galloupe's excellent apparatus for fracture of the patella, described in the JOURNAL of August 16, 1877.

I have lately treated a case of fracture of the patella in an old man seventy-seven years of age, and I found that however nicely I might place the adhesive straps around the knee they would get loose in a day or two, necessitating their reapplication. And besides becoming loose they caused blisters to form the whole distance across the knee. Just here I happened to think of my *tourniquet*, and I found myself master of the situation, for by placing the screw on the outer side of the leg next to the splint, and making a "figure eight" turn, I had the fracture under perfect control. I could now adjust my pressure as the case required, and as the acute synovitis subsided a single turn or two of the screw brought all the pressure desirable. With the use of the tourniquet I see no necessity for the long adhesive straps applied above and below the knee longitudinally, as it is simply necessary to sew the buckle to the strap of the tourniquet above the fracture, and the strip of cloth that goes *through* the buckle can just as well be sewed to the strap of the tourniquet below the fracture. I think any one trying this modification of Dr. Galloupe's apparatus will be surprised to find how much the tourniquet simplifies and makes easy what has heretofore been a difficult fracture to treat.

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#### GUM CUTTING AGAIN.

BY JOHN YALE, M. D., WARE, MASS.

Among the many able and interesting articles contributed to the JOURNAL by the late Prof. C. E. Buckingham was one on the propriety and usefulness of the operation of cutting the gums of children in appropriate conditions. Some time previously the question had been asked, derisively, Who cuts gums? A very decided answer, with reasons, was made by a correspondent, E. T. W., which seemed to settle the matter in its favor. At least my already written reply that I did was committed to the waste basket, as I thought that enough had been said to convince the most skeptical. Grave doubts of its utility under any circumstances seem to exist.

There have been objections to the operation from excessive hæmorrhage. Professor Buckingham had never seen or known of such a case. Yet I have to confess to one thirty years ago. The child was eight months old, and the lower incisors were cut. The oozing of blood continued till death, at the end of four days. In endeavoring to find a cause for it I remembered that instead of cutting directly on to the tooth the instrument glided inside, which may or may not explain its fatal result. To prevent any like occurrence I have always since cut them with the finger on one side and the thumb on the other, compressing the

part while passing the lancet to the tooth, rendering it impossible to slide down either inside or outside. Apart from this case, I have cut hundreds before and since, and seen no harm done.

When should the gums be cut? I mean by cutting not scarifying, but cutting down to the whole diameter of the tooth. If the gums of a child in a fit are swollen I always cut them.

Strong, well-fed children usually are not the ones troubled with teething irritation.

Prof. Eli Ives, of New Haven, taught his students that nature's outlet for teething irritation was by the bowels, ears, and the eruption of the tooth through the gum. Hence a mild diarrhœa, sores behind the ears, cutting the gum, all done artificially if not naturally, are the best means to relieve urgent symptoms. Dentition produces serious disease of itself, besides adding increased trouble in many of the diseases of children.

I have seen as prompt relief by cutting the gums in teething children as in the extraction of a tooth for toothache. A child of two and a half years had a fit which lasted two days, with startings and crying, so that its parents were obliged to carry it in their arms. On examining the mouth, the second molars were much swollen. I made a cross-incision over each. The child was instantly relieved, so that it wanted to get down, and was on the floor with its playthings, laughing, when five minutes before it was in an agony of restlessness and nothing could satisfy it.

In another case the child was not only relieved but gratified by the pleasant sensation of the cutting, and opened its mouth to have me try again before leaving. Some days after, when visiting another case, the child came up with its mouth open.

Helping the wisdom tooth through by cutting down upon it many of us know to be a great relief, and we can thus realize how the tender child must often suffer for want of the same treatment. It would seem also that the swelling of the gums in either case was not the result of biting upon hard substances, as a late contributor to the *JOURNAL*, April 25th, suggests, but from the tooth itself.

In a clinical lecture on disorders occasioned by the development of the dens sapientiæ, by Professor Velpeau at La Charité Hospital, as reported in the *Medical Library*, September, 1846, is the following: Besides four vicious directions of the tooth backward, forward, inwards, and outwards, there is a fifth one directly upward, caused by the tooth merely pressing against the gum, and being thus impeded, as in the case presented, producing severe pain in the face and mouth, with swelling, so as to close the jaws. The jaws were forcibly opened by a wooden wedge, and free division was made down to the tooth, resulting in immediate betterment. He related this case to M. Esquirol, who informed him that a lady had been brought into his institution laboring under mental derangement, and was restored to reason by a crucial incision of the gum which liberated the wisdom tooth.

Previous to reading this article I had a case of complete closure of the jaws, existing for ten years, which the lady said started from her wisdom tooth, doubtless caused by some failure of the tooth to come through. She died soon after, and I had no means of verifying my belief.

If such are the trials of teething in adults with merely the gum as an obstacle, and prompt relief is afforded by cutting, shall we deny this boon to children, among whom the results of difficult dentition are frequently fatal?

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### THE BLOOD CORPUSCLE.

MR. EDITOR, — When attending the lecture of Dr. E. Cutter in Tremont Temple, in which he gave a *résumé* of his wonderful discoveries concerning the characteristics of the blood corpuscles in the "nameless disease," I was saddened to think that such a mass of nonsense was being poured into the ears of the eager audience; however, knowing the fate of those who attempt to thwart the dear public in obtaining that which it desires rather than that which is true, I held my peace. Yet I must protest when I read a commendation of the same lecture in the letter from Buffalo in this week's issue of your journal. The writer could hardly have examined Dr. Cutter's micro-photographs when he calls them "triumphs of art;" nor could he have heard Dr. Cutter with much attention to pronounce his lecture "a matter-of-fact discourse."



I don't think Dr. Cutter will be bold enough to show the mass of diffraction rings, foreign bodies, and general confusion which he calls micro-photographs of blood corpuscles to any expert with the hope of supporting by their aid any of his "*a priori*" theories, any more than I think that he can demonstrate the peculiar "copper-colored" bodies in the blood in syphilis without regard to the color of the light employed in the illumination of his microscope.

I do not attempt a serious criticism; the work is unworthy of it. I do not write with personal feeling, for I do not know Dr. Cutter. If my remarks seem harsh, allow me to say that I think the occasion demands it.

Very respectfully yours,

DAVID HUNT, M. D.

MR. EDITOR, — In reply to the query of C. L. A., propounded in the number of the JOURNAL for May 30, 1878, page 717, I would say that the law of the diffusion of gases effectually prevents carbonic acid gas from sinking to the floor. In expired air carbonic acid gas forms but a small part of the mixture, and this mixture tends to rise under ordinary circumstances, because it is of a higher temperature than the surrounding air. Long before it can cool so much that the superior specific gravity of the carbonic acid could exert any effect it is thoroughly and equally diffused throughout the room, and nothing but powerful chemical attractions can then separate it.

If a jar be filled with carbonic acid gas, and on it be placed mouth downwards a second jar filled with hydrogen, — the lightest of all gases, — if communication be free between the jars, in a very short time the heavy carbonic acid will have diffused upward until there is just the same proportion of it in the upper as in the lower jar, and it will not again separate. The phenomena presented by the sufferers in the Black Hole of Calcutta were not those of carbonic acid poisoning, nor is it probable that carbonic acid had much to do with them.

C. L. A. will find the proof of these statements in any good work on the chemistry and physics of gases, in Pettenkofer's researches on ventilation, in Claude Bernard's experiments on the effects of carbonic acid, in Swissaigne's researches on the composition of the air at different heights in a closed room,<sup>1</sup> and in the reports of experiments on the ventilation of the Capitol, made by Dr. Wetherell in 1865, contained in Report No. 49, House of Representatives, Forty-First Congress, third session.

Under some circumstances it is better to have the point of exit for foul air at the bottom of a room, but this is not because there is a greater proportion of foul air at the bottom, nor is carbonic acid gas the most dangerous impurity which is to be got rid of.

I. S. B.

#### COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending June 15, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean for ten Years, '68-77.
New York.	1,093,171	462	21.98	23.42	28.71
Philadelphia.	876,118	280	16.62	18.80	21.54
Brooklyn.	549,438	188	17.79	21.51	25.50
Chicago.	460,000	122	13.79	17.83	22.39
Boston.	375,476	127	17.59	20.10	24.34
Providence.	100,000	25	13.00	18.81	19.20
Lowell.	55,798	20	18.64	19.09	22.50
Worcester.	54,937	13	12.31	14.07	22.30
Cambridge.	53,547	8	7.77	18.69	20.83
Fall River.	53,207	18	17.59	1.35	24.96
Lynn.	35,528	9	13.17	0.42	19.67
Springfield.	33,981	6	9.18	6.02	19.77
Salem.	27,140	6	11.49	0.38	21.15

<sup>1</sup> Bull. de l'Acad. roy. de Méd., xi., Paris, 1846, page 1240.

THE following persons received the degree of doctor of medicine at the annual commencement of Harvard University, Wednesday, June 26, 1878 : —

Edward Abeles.	William Philip Kelly.
George Booth Ambrose.	Henry Sherman Kilby, A. B.
Jonas Edward Bacon, A. B.	George Adams Leland, A. B.
Charles Parker Bancroft, A. B.	Otis Humphrey Marion, A. B.
John Winters Brannan, A. B.	William Castein Mason, A. B.
John Bryant, A. B.	Charles Brenton Matthewson, A. M.
Henry de Wolfe Carvelle.	James Joseph M'Carty.
Perley Peirce Comey.	James Jackson Minot, A. B.
John Patrick Curley.	Henry Lee Morse, A. B.
William Nelson Deming.	William Oxnard Moseley, A. B.
James Edmund Dorcey.	Walter Andrus Phipps.
John Wheelock Elliot, A. B.	William Wotkyns Seymour, A. B.
Edward Mortimer Ferris, A. B.	Frederick Arnold Smith.
Charles Elmer Field, A. B.	William Towle Souther, A. B.
Samuel Eaton Fitz, A. B.	Frederick Dabney Stackpole, A. B.
Frank Byron Flanders, A. B.	Charles Bliss Stockwell, A. B.
Samuel William French, A. B.	George Thomas Tuttle, A. B.
Frank Boutelle Fuller, A. B.	Clarence Albertus Viles.
George William Galvin.	Charles Rumford Walker, A. B.
John Flint Gore.	Luther Robinson White.
Otis French Ham.	Fred Webster Whittemore.
William Louis Johnson.	Harold Williams, A. B.
Joseph Wadsworth Keene, A. M., M. D.	Samuel Bayard Woodward, A. B.
George Wallace Kelley.	

We learn that there were seventy-two applicants, of whom six withdrew their names, and nineteen were rejected.

CONNECTICUT RIVER VALLEY MEDICAL ASSOCIATION. — At the annual meeting, held at Bellows Falls, Vt., May 1, 1878, the following officers were elected for the year ensuing : President, N. G. Brooks ; vice-president, S. Nichols ; recording secretary, D. P. Webster ; corresponding secretary, A. P. Richardson ; treasurer, E. R. Campbell.

The next regular meeting will be at Bellows Falls, Vt., July 3d.

WALPOLE, N. H., June 16, 1878.

A. P. RICHARDSON, *Corresponding Secretary*.

BOOKS AND PAMPHLETS RECEIVED. — Fifteenth Annual Report of the New York Society for the Relief of the Ruptured and Crippled, May, 1878.

Dilatation of the Cervix Uteri. By George H. Lyman, M. D., Boston. (Reprint from Volume II. Gynæcological Transactions, 1878.)

In Memoriam Charles Edward Buckingham. By George H. Lyman, M. D., Boston. (Reprint from Volume II. Gynæcological Transactions, 1878.)

Practical Chemistry for Medical Students, specially arranged for the First M. B. Course. By M. M. Pattison Muir, F. R. S. E., Prælector in Chemistry, Gonville and Caius College, Cambridge. London : Macmillan & Co. 1878. (For sale by James Campbell & Co.)

Medical Education. Extracts from Lectures delivered before the Johns Hopkins University, Baltimore, 1877-78, by John S. Billings, M. D., Surgeon United States Army. Baltimore. 1878.

On the Necessity of Caution in the Use of Chloroform during Labor. By William T. Lusk, M. D., New York.

Relations of Syphilis to the Public Health. By Frederic R. Sturgis, M. D. New York. 1877. Pp. 40.

Insanity in Ancient and Modern Life, with Chapters on its Prevention. By Daniel Hack Tuke, M. D. London : Macmillan & Co. 1878. (From A. Williams & Co.)

Second Annual Report of the State Board of Health of the State of Wisconsin. 1878.

Transactions of the Vermont Medical Society for the Year 1877.

Visions : A Study of False Sight (Pseudopia). By Edward H. Clarke, M. D. With an Introduction and Memorial Sketch, by Oliver Wendell Holmes, M. D. Boston : Houghton, Osgood & Co. The Riverside Press, Cambridge. 1878.















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